7TH TIER

NEW EQUIPMENT DIGEST

October, 1955
Volume 20—Number 10

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Use Inquiry Slips—Pages 8 and 112

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

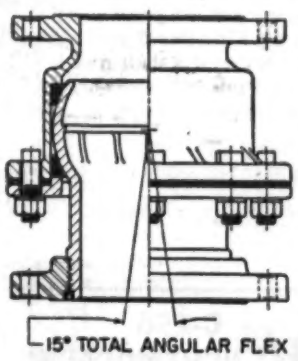
MACHINE TOOL SWITCHES
improved with water-tight feature

Improved line of heavy duty machine tool limit switches is designed to withstand water, dust and oil conditions even under severe operating conditions. These NEMA types 1-A, 2, 4 and 5 feature an O-ring shaft seal, captive cover screws and water-tight switch cover which form the positive water-seal. Available styles include double pole, single throw, double break; three-pole, double-break; and neutral position, double throw, double break styles, both normally open and normally closed. Over 150 lever styles are offered. All models have isolated circuits and incorporate a glass fiber arc shield. Made by **R. B. Denison Mfg. Co.**, Dept. N, 102 St. Clair Ave. N. W., Cleveland 13, O.

▲ For more details circle NED-1 K5 on enclosed inquiry slip ▲

PIPING BALL JOINTS
made in 8, 10 and 12-in. sizes

Flanged end and welding end patterns are available in 8, 10 and 12-in. sizes of pipe ball joints for power, process, heating, chemical and hydraulic service.



Joints with flanged ends can have 150 or 300-lb flanges, while welding end joints are suitable for 600 psi steam and operating temperatures up to 1000° F. All are lighter, stronger and lower in cost than previous design. Both types may be equipped with general purpose composition No. 11 gasket for gasoline, oil, water, noncorrosive chemicals and steam up to 300 psi. Gasket is also suitable for tank settling or expansion movement. Other gaskets for higher temperatures and pressures are available. Joints themselves resist fire and withstand 15-degree angular flexing. Made by **Barco Mfg. Co.**, Dept. J-10, 500 Hough St., Barrington, Ill.

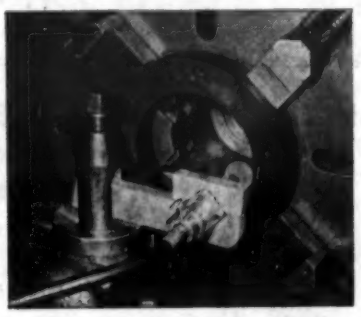
▲ For more details circle NED-2 K5 on enclosed inquiry slip ▲

SMALL MAGNETIC COUNTER
speed is 700 counts per minute

Moderate counting duty applications where extreme long life is not required are suitable for this small reset magnetic counter. It is easily connected in series with any device having a contact arrangement. Actuation may be by any type of switch, relay or photoelectric unit. Maximum recommended speed is 700 counts per minute. Units are available for 24 and 110-v ac-dc operation and have three figures, with four figures provided on special order. Made by **Veeder-Root Inc.**, 19-P Sargeant St., Hartford 2, Conn.

▲ For more details circle NED-3 K5 on enclosed inquiry slip ▲

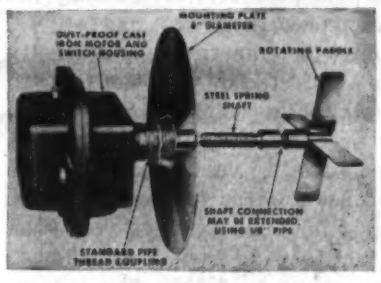
TOOL POST HOLDER
for 30,000-rpm pneumatic grinders



Mall models PG-K-1030B and PG-K-1030L midget pneumatic die grinders can be used for accurate work on pieces mounted on a lathe when held in this tool post holder. Made of 9/16-in. cadmium rolled steel, holder is designed specifically for these midget, 30,000-rpm grinders. It has A-shape mounted bracelet point which grips grinder rigidly for precise work. Made by **Mall Tool Co.**, 7725 S. Chicago Ave., Chicago 19, Ill.

▲ For more details circle NED-4 K5 on enclosed inquiry slip ▲

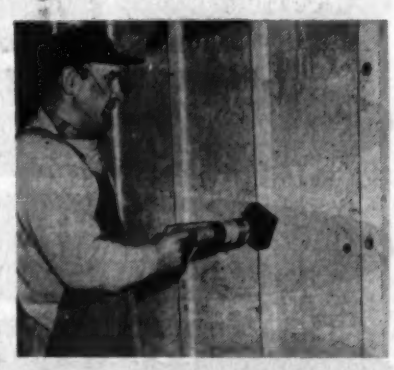
BIN LEVEL INDICATOR
rotating paddle detects bulk level



Bins under pressure or vacuum, bins handling large lump materials, or those handling materials tending to "rat-hole" and prevent operation of a diaphragm are types of installations for which the Roto-Bin-Dicator level indicator is designed. Indicator has slowly rotating paddle projecting into bin which stops turning when material partially or entirely covers it. When material drops below paddle, rotation resumes. Paddle is mounted on flexible shaft which flexes under impact or thrust of material and is driven by small motor mounted outside the bin. It responds to pressure of material within bin and actuates a switch to signal or start and stop machinery as required. Made by **Bin-Dicator Co.**, 13946-100 Kercheval Ave., Detroit 15, Mich.

▲ For more details circle NED-5 K5 on enclosed inquiry slip ▲

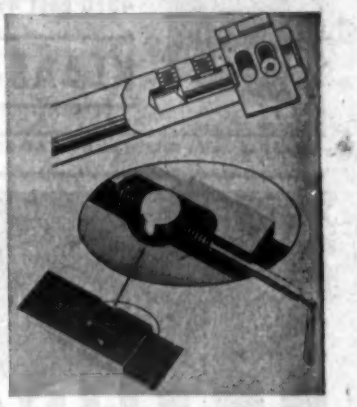
STUD DRIVER
has interchangeable barrels



Interchangeable barrels of model 455 powder-actuated stud driver permit use of different power loads for delivering impacts of varying force. Operator can change barrels to convert from ¼-in. studs to ⅜-in. studs in 90 seconds. Disk attachment on heads of studs enables operator to drop studs into barrel chamber without forcing. Driver accommodates 25 types of ¼-in. studs ranging from 1 to 3¼ in. long, or 12 types of ⅜-in. studs in lengths from 1½ to 4¾ in. Tool is readily adjustable to two-handed operation. It cocks only when depressed against work and uncocks when pressure is released. Tool is inoperable if inclined at more than minimum safe angle to smooth work surface. Made by **Remington Arms Co.**, 939 Barnum Ave., Bridgeport 2, Conn.

▲ For more details circle NED-6 K5 on enclosed inquiry slip ▲

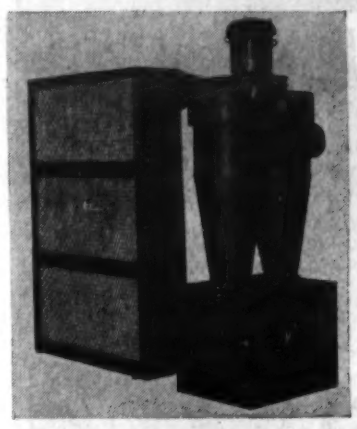
BORING & REAMING CUTTERS
has protected adjusting screw



Micrometer adjusting screw on Maxwell boring and reaming cutters is protected against wear and gall from chips. It permits positive adjustment in both directions to increase or decrease cutter diameter. Float in bar at point of cutting action can be adjusted to compensate for misalignment of equipment. In boring operations the cutter is locked in the bar to hold concentricity. Need for grinding to size is eliminated as cutters are set to size with the micrometer adjusting screw. Only 16 cutters are required for bores from 1 to 2-in. diameters. Made by **Maxwell Co.**, Dept. 3B, 386 Broadway, Bedford, O.

▲ For more details circle NED-7 K5 on enclosed inquiry slip ▲

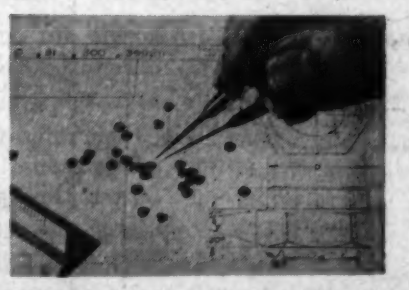
DUST COLLECTOR
has six throw-away filters



Dust, lint, chips, powders and fumes in industrial plants are collected in the model 219 FM-A cyclone type dust collector. Filtered air is recirculated back into the room. Its 5-hp, 3450-rpm motor pulls 2100 cfm of air through the 8-in. inlet at a static pressure of 3.0 in. (water). Depending upon particle size and specific gravity, efficiency ranges from 75 to 95 per cent. Six throw-away filters of glass insulation wool on two open surfaces of after-filter remove fine dust not trapped in the 4½-cut ft capacity internal reservoir. Made by **Torit Mfg. Co.**, Dept. NE, 287 Walnut St., St. Paul 2, Minn.

▲ For more details circle NED-8 K5 on enclosed inquiry slip ▲

MINIATURE NUTS
self-locking type for instrument use



Line of one-piece Flexloc micro nuts, miniature self-locking fasteners for precision instrument fastening applications, includes sizes from 0-80 up to 4-48. Smallest 0-80 nut measures less than ⅛-in. across. These all-metal fasteners provide all the mechanical advantages of their larger Flexloc counterparts and function as stop nuts as well as locknuts. Spring-like pressure of resilient, collar segments holds nut securely in place, whether seated or not. Micro nuts are presently being made in brass, either plain or cadmium-plated, or aluminum by **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

▲ For more details circle NED-9 K5 on enclosed inquiry slip ▲

Make This Little Giant Work for You

EMCO "W" 5-ton bench type; also larger EMCO "X", 10-ton. Both sizes also stand-mounted. With or without motor drive.

Versatile EMCO presses excel for punching, forming, stenciling and riveting. Up to 300 operations per minute. "Big machine" speed, strength, rigidity, accuracy, endurance, safety. Compact, fool-proof; simple design—easy to operate. Thousands of EMCOS in money-making use testify to Klaas dependability since 1921. Two practical sizes.

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UNUSUAL AIDS TO INDUSTRY

THE KLAAS MACHINE & MANUFACTURING CO.
4310 East 49th St., Cleveland 25, Ohio

KLAAS-BUILT EMCOS

▲ For more details circle NED-10 K5 on enclosed inquiry slip ▲

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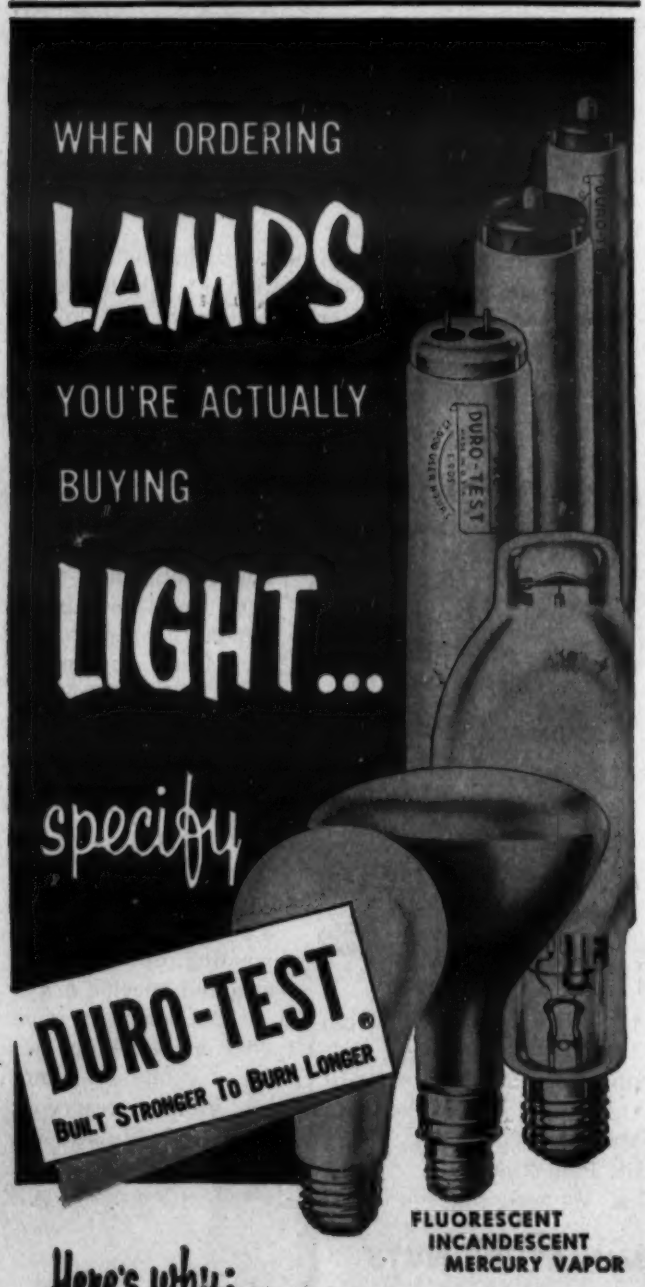
LAMPS

YOU'RE ACTUALLY BUYING

LIGHT...

specify



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MERCURY VAPOR

Here's why:

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Operating at their rated watts and volts, they for outlast conventional lamps, yet maintain high lumen output throughout life.

Results? These stronger-built, longer-burning lamps reduce your overall lighting costs. Our representative in your area will show you how.

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WAREHOUSES IN PRINCIPAL CITIES FOR PROMPT SHIPMENT

▲ For more details circle NED-11 K5 on enclosed inquiry slip ▲

Your New Product Showcase

At the combined Machine Tool, Production Engineering and Machinery Shows in Chicago there was the largest collection of industrial machinery, tools, accessories and equipment ever to be displayed in one city. Practically every one of the hundreds of exhibitors at these three expositions was showing one or more new products for the first time. Crowds jammed every booth.

The most impressive thing to me as I toured miles of aisles and talked to hundreds of sales executives was that practically all of the new products either had been or are in the process of being described in NEW EQUIPMENT DIGEST. Whether or not you were able to attend these shows, I highly recommend that you continue to scan the pages of NED, your monthly "showcase" of new equipment. It's much easier than walking.

A. N. Gregg
EDITOR

ULTRASONIC FLOWMETER
measures either mass or volume flow of virtually any fluid

Either mass or volume flow of virtually any fluid can be measured by this Ultrasonic Flowmeter, regardless of fluid's electrical conductivity. Rate of volume flow is measured by two transducers, each of which transmits and receives controlled pulses of ultrasonic energy across the pipe section, sensing the difference in number of pulses received.

System eliminates effect of temperature and density on sonic velocity and is unaffected by variations due to pressure, viscosity, gas bubbles, solids in suspension, electrical conductivity or position of installation. A third transducer can be added to volumetric flow-rate meter to give density measurement for sensing mass. Application possibilities include handling of even molten metals in addition to wide variety of fluids.

Present capacities range up to 12,000 lb per minute with fluid density range of about 2.5 to 1. Flowmeter can be adapted to any pipe size down to 2 in. Temperature limit is −50 to 225° F standard and up to 750° F with special provisions. Pressure limit is 150 and 300 psi standard. Made by **Fischer & Porter Co.**, Hatboro 35, Pa.

▲ For more details circle NED-12 K5 on enclosed inquiry slip ▲

WHAT'S YOUR TIMING PROBLEM

ACCURACY?
Ferrara offers accuracies better than ± 1% over 95-125 volt line changes and wide temperature variations

DEPENDABILITY?
Standard electronic timers are designed for the most rugged industrial usage

FLEXIBILITY?
Ferrara timers feature interval, delayed action, single cycle repeat cycle and multi-cycle operation

ECONOMY?
You can't beat Ferrara timers for reliable timing at budget prices. List prices start at $49.00

Whatever your timing problem, you'll find a standard Ferrara unit that provides the solution. Many standard variations available.

MODEL T-1, SINGLE AND REPEAT CYCLE—0.3-25 sec. or 0.5-50 sec.

MODEL T-2, SINGLE AND REPEAT CYCLE, MULTI-RANGE—0.1-1; 1-10, 10-100 sec.

MODEL T-3, DUAL CYCLE ON-OFF TYPE—Two independent timing sections, ±1%, 20 AMP load contacts.

See your distributor or get the whole story on

***ferrara* ELECTRONIC TIMERS**
in free catalog

Ferrara, Inc. • 8106 W. Nine Mile Rd. • Oak Park 37, Mich.

▲ For more details circle NED-13 K5 on enclosed inquiry slip ▲

Use this special, thin GRIPCO JAM NUT

to get a positive lock on bolts subjected to shearing stresses where the strength of a full nut is not required. The thin GRIPCO Jam Nut locks without the use of lock washers or other parts. The nut itself does the WHOLE job—so shorter bolts can be used. Applicable on such products as valve handles, casters, garden and pruning shears, hedge clippers, sickle bars, etc. GRIPCO JAM NUTS are manufactured in the new Unified Finish and Heavy Series (Hexagon). Furnished in standard full and jam dimensions, in steel, brass and aluminum. *Write for samples and full particulars*

GRIPCO PRODUCTS INCLUDE:
Gripco Lock Nuts, New Gripco "Clinch" Nuts, Gripco Hi-Nuts, Gripco Pilot-Projection and Countersunk Weld Nuts with or without Gripco locking feature.

111

GRIP NUT COMPANY
"after 50 years still holding strong"
308-G S. MICHIGAN AVE., CHICAGO 4, ILL.

▲ For more details circle NED-14 K5 on enclosed inquiry slip ▲

Browning's **NEW CHAIN COUPLING**

STRONG AS THE SHAFT ITSELF!

No reboring . . . simple assembly . . . individually packaged

Browning's chain coupling with pearlitic malleable sprockets, hardened teeth and standard roller chain provides maximum capacity and longer life. Employs same split taper compression bushing used in other Browning power transmission products. Strong as the shaft itself! Choice of 9 stock sizes, 38 bores from your Browning distributor. Ask him or write us for Catalog V169.

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

▲ For more details circle NED-15 K5 on enclosed inquiry slip ▲

NEWEST *Pulmosan* **C-256 "CHEMOCART" RESPIRATOR**

Positive Protection against Organic Vapors

exclusive features of CHEMOCART C-256

- Only single chemical cartridge respirator bearing U.S. Bureau of Mines Approval — #2309.
- Lightweight — 7.6 ounces complete.
- Replacement cartridges individually packaged — protected from heat, moisture, vapors.
- Flexible aluminum body quickly molded to fit any facial contour. Once shaped no further adjustments necessary.
- Overall black alumilite plating resistant to corrosion.
- Patented Exhalation Valve is ultra-responsive to wearer's breathing.
- Adjustable headband.
- All parts replaceable at lowest cost.

PULMOSAN STOPS Accidents

Pulmosan SAFETY EQUIPMENT CORPORATION
644 PACIFIC ST., BROOKLYN 17, N. Y. • 1007 WASHINGTON AVE., ST. LOUIS, MO.

write for complete data and quantity prices

▲ For more details circle NED-16 K5 on enclosed inquiry slip ▲

monroe FOLDING BANQUET TABLES

Write today for new catalog showing 58 models and sizes of Monroe Folding Tables.

Monroe Folding Tables, rigidly built yet very attractive, are designed for institutional use. May be used with or without table cloths, as desired. Also available in Formica and Ornacel special color and pattern types. Write for catalog with direct factory prices and discounts to industry, religious and educational institutions, clubs, lodges, etc.

MONROE TRUCKS for Folding Tables and Chairs

Transport and store your folding tables and chairs the easy, modern way on MONROE Trucks. Construction of Transport-Storage Trucks permits maneuverability in limited space. See Catalog.

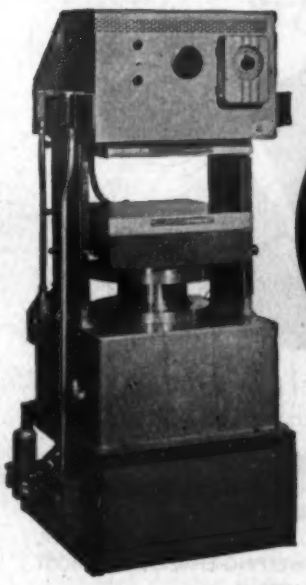
MONROE Truck No. TS3

Complete Line of Folding Chairs

THE MONROE CO. 950 CHURCH ST. **COLFAX, IOWA**

▲ For more details circle NED-17 K5 on enclosed inquiry slip ▲

The P·H·I Automatic 70 Ton Hydraulic Press



ELECTRIC
Hydraulic System,
Cycle Timer,
Heated Platens and
Temperature controls

18"x 18" Platens to 600°
with thermoswitch controls.
Two position ram gives
8"& 12" Daylight.
8" stroke with down stroke trip.

larger presses built to customers specifications

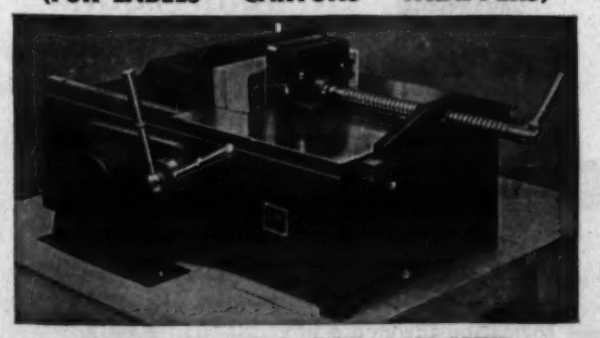
P·H·I PRESS

Write for Circular
PASADENA HYDRAULICS INC.
279 N. Hill Avenue
Pasadena 4, California

▲ For more details circle NED-18 K5 on enclosed inquiry slip ▲

"Codedge" LABEL DATING MACHINE

(FOR LABELS — CARTONS — WRAPPERS)



2,000 LABELS PER MINUTE

Economy and Speed with Negligible Labor Costs.
Dating is effected by cutting a series of small notches in one edge of the label, and is easily read at a glance by means of a simple code card.

- **No sticking together of the labels in the labeling machine.**
- **Does not disfigure even the most attractive label. The depth of cut is adjustable and the coding may be made practically unnoticeable.**
- **Complete packets of labels as received from the printer are coded in one operation, thus avoiding waste.**

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1039 PARKSIDE DRIVE . . . LAKEWOOD 7, OHIO
TELEPHONE BOULEVARD 2-8810

▲ For more details circle NED-19 K5 on enclosed inquiry slip ▲

AUTOMATIC FACING UNIT attaches to any boring machine

Any boring machine can be converted to perform facing operations also by this automatic hydraulic facing attachment. It permits boring and facing operations to be performed simultaneously, and face is exactly perpendicular to the bore. Unit will face diameters up to 6 in. Equipment consists of hydraulic piston assembly and facing compound slide with micrometer adjustments, actuating valve, feed control dial, and hydraulic lines and fittings. Made by **Belock Instrument Corp.**, Dept. G, 14-34 112th St., College Point, N. Y.

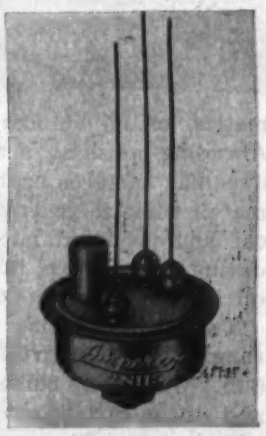
▲ For more details circle NED-20 K5 on enclosed inquiry slip ▲

HAND KNURLING TOOL has 1/8 to 1-in. diameter capacity

Time can be saved on short production runs and on individual parts by using the Knurlmaster hand knurling tool. Furnished with three standard steel knurls, it can be used on stock as small as 1/8-in. diameter without distortion and has a capacity up to 1 in. diameter. Hardened forged steel frame clamps over the workpiece and automatically centers itself as the workpiece rotates on lathe or drill press. Made by **Rockwin Mfg. Co.**, Dept. N, 45 Rose St., New York 38, N. Y.

▲ For more details circle NED-21 K5 on enclosed inquiry slip ▲

TRANSISTOR delivers 5 w with 6-v supply



Type 2N115 junction power transistor has a high current rating at low drop across the transistor itself, extremely linear relationship between base current and collector current and exceptionally high gain for its power level. It delivers 5 w push-pull output with a 6-v supply. Transistor is internally insulated from its metal case. Applications include use in output stage of auto radios, as an oscillator on 6 or 12-v supply, or as a servo amplifier, clocking pulse amplifier or power switch. Made by **Amperex Electronic Corp.**, 233 Duffy Ave., Hicksville, L.I., N. Y.

▲ For more details circle NED-22 K5 on enclosed inquiry slip ▲

Clean ...Motors and Generators...Quickly, Efficiently, Safely with TURCO-SOLV

Far More Efficient than stoddard solvent
Far Less Toxic than carbon tetrachloride
Far Safer than gasoline...Also ideal for a host of other plant maintenance cleaning jobs

Write for Booklet "The Story of Safety Solvents" FREE!

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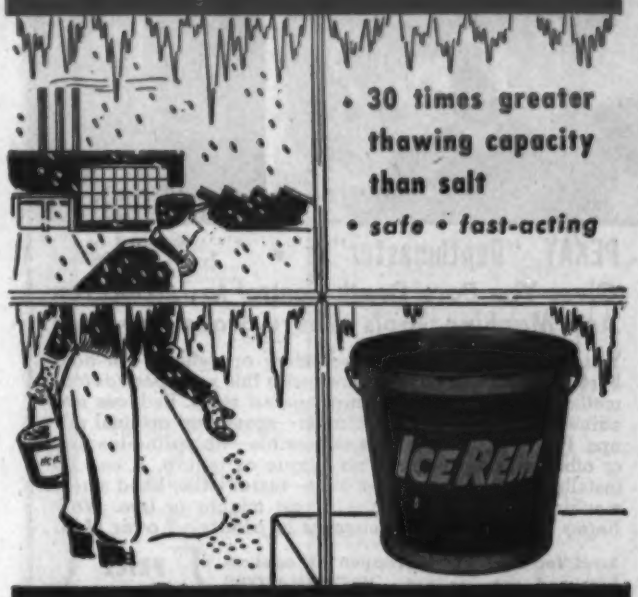
MELTS SNOW! THAWS ICE! ICE REM

ice and snow melting chemical crystals



- 30 times greater thawing capacity than salt
- *safe • fast-acting*

SPECO, Inc.
7308 ASSOCIATE AVE. • CLEVELAND 9, OHIO
"manufacturers of RUSTREM anti-rust paint"

▲ For more details circle NED-24 K5 on enclosed inquiry slip ▲

STUCK, LOOSE, BROKEN, STRIPPED THREADS? MAKE SIMPLE, SAME-SIZE REPLACEMENTS *on the spot* with HELI-COIL* Shop-pack

Now you can replace rusted, busted, worn out, torn out threads due to broken bolts, frozen studs, excessive wear, etc., *on the spot*. Drastically cut downtime, mechanics' time, eliminate welding and plugging! *Heli-Coil* Shop-pack gives you an economical, quick means of permanently replacing any thread size from 6-32 to 1½-6 in N.F. and N.C. series (available also in pipe thread sizes)...in any machine tool, engine, vehicle, appliance, building or furnishing you use, operate or service.

All you do is (1) drill out the hole, including stub of broken screw or stud; (2) tap new threads with the *Heli-Coil* tap; and (3) wind in a *Heli-Coil* Insert using the inserting tool provided. The result is a permanent, back-to-original size, stronger-than-ever repair ...made in minutes!

It's as simple and *sure* as that. There is a *Heli-Coil* Shop-pack for every size thread. Each contains a tap, inserting tool and a generous supply of *Heli-Coil* Inserts, and full instructions. Call your supplier or mail the coupon *today* for Shop-pack details.

*Reg. U.S. Pat. Off.

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710 Shelter Rock Lane, Danbury, Conn.

Please send me Bulletin No. 724A on the NEW Shop-pack.

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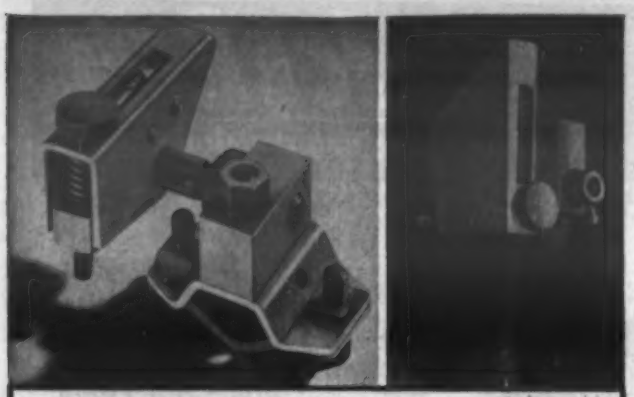
▲ For more details circle NED-25 K5 on enclosed inquiry slip ▲



PEKAY "Depthmaster" • Mounted on Turret Hand Wheel

Gives You Bore Depth Control to 1/1000" on Any Machine Tools Where Stops Are Used

You can eliminate costly secondary operations, yet hold bore depths to close tolerances, with this *non-mechanical* method of measuring pressure against stops. Reduces machine adjustments to a minimum—speeds up original setups. Progressive errors are impossible—no spring-loading or other moving parts, so no fatigue or failure. It can be installed on any tool with a stop—turret lathe, hand screw machine, drill press, etc.—in one minute or less. *Now being used with great success in plants all over U. S.*

Send for complete description of application and use—or order "DEPTHMASTER" today on our Money-Back Warranty! **PRICE $23.50**

PEKAY MACHINE & ENGINEERING CO.
882 N. SANGAMON STREET CHICAGO 22, ILLINOIS

▲ For more details circle NED-26 K5 on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

BPA NBP

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Free! New CATALOGUE Showing 750 Different CABINET COMBINATIONS A Type and Size for Every Need!

In our CATALOGUE, you'll find the perfect CABINET for your particular requirement, whether it be for small parts storage, handling or display. 750 different combinations can be CUSTOM-BUILT at production line prices.

2.98 and up

Send for CAT. JD-53-E

AKRO-MILS, INC. Box 989-E AKRON 9, OHIO

▲ For more details circle NED-31 K5 on enclosed inquiry slip ▲

BECKETT Hi-CYCLIC
SOLENOID VALVE-PILOTED AIR VALVES
✡ Full Pressure Piloted

$34.10

⅛" SIZE
MODEL EVP1—Single Solenoid less exhaust controls. F.O.B. Wilmington, Ohio.

✡ ⅛" to 1" sizes, single and double solenoid. High speed • Accurate control • Compact • Low current demand • Write for detailed information.

Look to Beckett for advanced design! A complete line—150 models—of air and hydraulic directional control valves ...*precision-built, economically priced!* Send for catalog.

BECKETT-HARCUM CO., INC.
1147 WAYNE ROAD, WILMINGTON, OHIO

▲ For more details circle NED-27 K5 on enclosed inquiry slip ▲

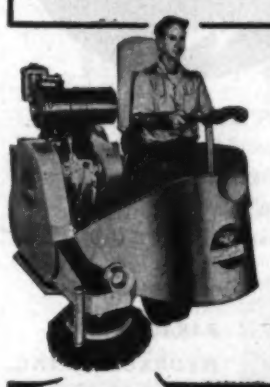
POLISHING & GRINDING WHEEL conforms to part being polished and generates buff-type finish

Hundreds of pieces of coated abrasive cloth formed into a wheel comprise the PG polishing and grinding wheel which can be used on rotary or straight line automatics, or on standard lathes for hand operations. Abrading-polishing action and ability to conform to irregular surfaces enable wheel to remove mild draw marks while it generates a buff-type finish. Rate of cut and produced micro-inch finish remain constant during entire wheel life. Wheel is clean since it uses oil instead of a compound.

Twenty stock sizes are available, with diameters ranging from 14 to 17 in. Widths are 2, 3, 4, 5 and 6 in. Wheels are currently made with aluminum oxide and silicon carbide coatings and in a full range of polishing grits. They are mounted on a hub assembly which can be adapted to fit any spindle. Made by **Minnesota Mining & Mfg. Co.**, Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

▲ For more details circle NED-29 K5 on enclosed inquiry slip ▲

When You Hire a Gal to Clean Up.... Her Figure is Only Secondary!



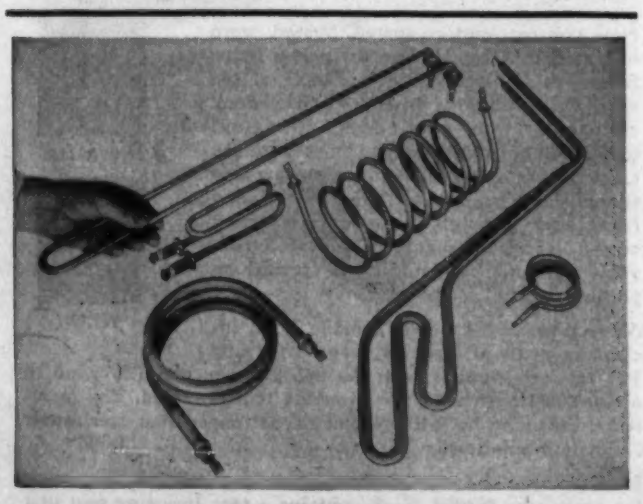
THE ONLY FIGURES YOU ARE INTERESTED IN ARE REDUCED SWEEPING COSTS... IN A POWER SWEEPER, TOO, SWEEPING EFFICIENCY IS MOST IMPORTANT!

A WILSHIRE Power Sweeper does the work of 15 to 18 men with a broom... Saves you 80% on sweeping costs!

Write for Bulletin No. A-55 TODAY

Wilshire Power Sweeper Company
ELGIN, ILLINOIS • GLENDALE 4, CALIFORNIA

▲ For more details circle NED-32 K5 on enclosed inquiry slip ▲



CHROMALOX *Electric* TUBULAR HEATERS
provide controlled and dependable conduction, convection or radiant heat

These versatile Chromalox Tubular Heaters provide the kind of heat you need, exactly fitted to your specific heating application.

Available in straight lengths or formed to any desired shape. Used for heating dies, molds, platens; as immersion heaters in liquids, soft metal and molten salts; or in ovens, air ducts and other air heating applications.

Let the Chromalox Sales-Engineering staff solve your heating problems.... electrically.

Write for your copy of Catalog 50
—for full information on the complete line of Chromalox Electric Heaters and controls.

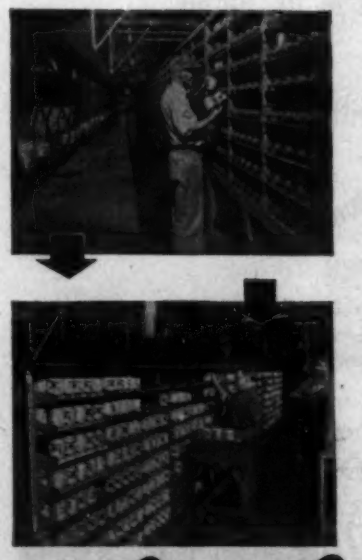
For ideas on additional applications of electric heat, request Booklet F1550—"101 Ways to Apply Electric Heat."

See other ad on Pg. 76
A-4486

Edwin L. Wiegand Company
7509 Thomas Boulevard, Pittsburgh 8, Pa.

▲ For more details circle NED-28 K5 on enclosed inquiry slip ▲

EASY IN- EASY OUT...
WHEEL CONVEYOR STORAGE RACK



Easy loading at the load end, easy removal at the discharge end . . . and when a part is removed —another rolls into place. Logan Wheel Conveyor Storage Racks:

(a) Eliminate confusion and hazards which frequently accompany use of skids and trucks. (b) Save aisle space required for trucking. (c) Stock always ready on first-in-first-out basis. (d) Material flows by gravity.

Adaptable to many industries. Write for further information.

LOGAN CO.
215 Cabel St.
LOUISVILLE, KY.

Logan Conveyors

▲ For more details circle NED-30 K5 on enclosed inquiry slip ▲

WATER SCALE... the AQUA UNIT WILL CONTROL IT ELECTRICALLY!

Now in our 10th Year!

"Just plug it in." No chemicals or "human watch dog" needed.

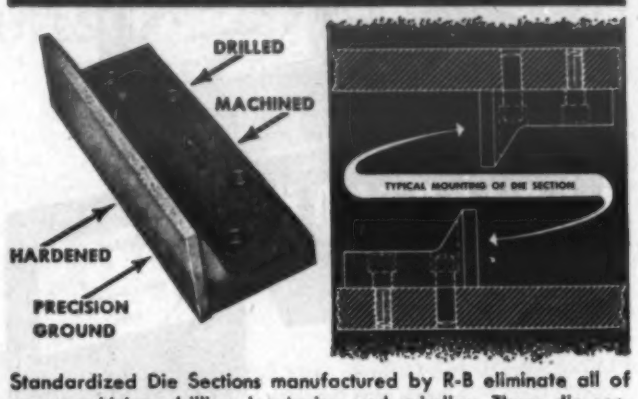
The AQUA unit provides a controlled electrical treatment using a positive power supply. It prevents hard scale formation through a physical change only. Usually existing scale gradually disintegrates. AQUA is simple, durable and easy to install; costs about 15c per month to operate. Savings in cost of present treatment, *satisfactory or not*, will more than pay for the unit in the first year.

Ask on your letterhead for Bulletin N.-10. | *Aggressive sales representation invited.*

AQUA ELECTRIC SCALE CONTROL, INC.
2026 East 22nd Street Cleveland 15, Ohio

▲ For more details circle NED-33 K5 on enclosed inquiry slip ▲

STANDARDIZED DIE SECTIONS REDUCE YOUR DIE BUILDING TIME



Standardized Die Sections manufactured by R-B eliminate all of your machining, drilling, hardening and grinding. These die sections substantially reduce your die building time.

Series A, B and C die sections have cutting edges of tool steel which are hardened and precision ground. Bases are of mild steel to permit drilling of dowel pin holes.

Series AA, BB and CC die sections are not hardened, have wider lands and are of the same general construction as series A, B and C. These extra wide lands permit contouring before hardening. Die sections in both series are available in various lengths and heights.

Use R-B Engineering Service for Your Tough Piercing Problems

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 81 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

▲ For more details circle NED-34 K5 on enclosed inquiry slip ▲

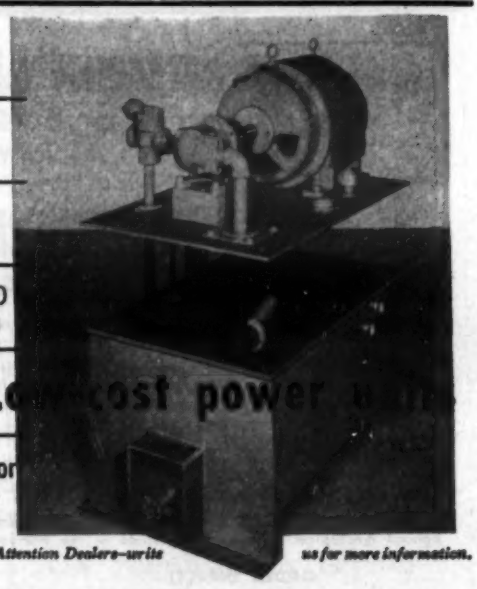
4897

top-notch DESIGN

a complete LINE

all tanks IN STOCK

ALL WELDED construction



Now, Low-cost power units

write today for CATALOG

Attention Dealers—write us for more information.

Now you can buy hydraulic power units that are standard catalog items. Available in five sizes, with ratings of ¾ to 20 horsepower. Soundly engineered, these units are built around Rosaen TK Tanks (carried in stock), insuring quick assembly and delivery.

Standard TK Tanks, in capacities of from 20 to 100 gallons, are also available. They include all mounted accessories and feature a large mounting surface for maximum horsepower per unit size.

The ROSAEN COMPANY
24601 HARPER AVENUE • ST. CLAIR SHORES, MICHIGAN

▲ For more details circle NED-35 K5 on enclosed inquiry slip ▲

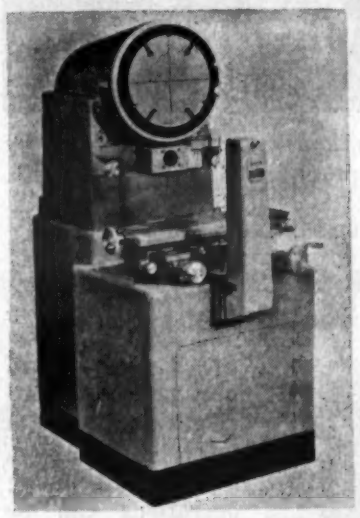
▲ For more details circle NED-36 K5 on enclosed inquiry slip ▲

MINIATURE HEX-SOCKET SCREWS for small devices and instruments

Line of miniature hex-socket cap and set screws offers both coarse and fine threads, except No. 0 and No. 1 diameters which are standard in fine series only. These minicaps and minisets are for use in wide variety of small devices, instruments, radio equipment, meters, cameras and electronic and x-ray tubes. Screws have extremely close tolerances and socket uniformity. They will hold to the key or driver for easy starting. Cap screws have knurled heads. Made by **Allen Mfg. Co.**, Dept. NE, 113 Sheldon St., Hartford 2, Conn.

▲ For more details circle NED-37 K5 on enclosed inquiry slip ▲

CONTOUR PROJECTOR heavy-duty 26 x 8-in. worktable will handle large, heavy parts



A 26 x 8-in. heavy-duty worktable enables model 14-5 contour projector to measure large, heavy parts to within 0.0001-in. Unit features a 14-in. screen over which 10 x 12-in. or 11 x 14-in. chart gages are held by overlay clips. Projector can be used for routine gaging by comparing image of part with chart.

Box - like worktable assembly is supported by 5-in. OD column located in widely spaced precision bearings. Deflection is minimized by use of outboard braces in the form of a heavy channel skirt. Table travel of 8 in. is provided in both horizontal and vertical planes. Focusing travel is 3 in. Once in focus, part remains so through any of six magnification changes of the Kodak lens turret.

Measuring attachment used on model 14-5 is equipped with micrometer accurate within 0.00005-in. over entire 1-in. range. Filter holder on lamp house collimater accepts polarizing filters for strain analysis applications. Made by **Eastman Kodak Co.**, Special Products Sales Div., Dept. E, 343 State St., Rochester 4, N. Y.

▲ For more details circle NED-38 K5 on enclosed inquiry slip ▲

NOW GRAVELY Gives You Push Button Snow Removal!

• CHOICE OF 3 SNOW REMOVAL TOOLS •
Each With New Gravely Self-Starter

A new experience in snow removal — simply push the button and your Gravely Tractor is ready for the toughest snow removal job!

The *only* 5-HP Tractor that offers a choice of Snowblower, Snow Plow or Power Brush for snow removal. Choose the tool to fit your particular job!

• ONE TRACTOR — 23 ATTACHMENTS •

23 tools to choose from for year 'round grounds maintenance tasks. From 75" gang mowers to 48" Snowplow, the Gravely saves time and money all year . . . *Write for catalog . . . or "How to Solve Removal Problems" . . . TODAY!*

GRAVELY TRACTORS, INC.
BOX 1080 DUNBAR, WEST VIRGINIA

▲ For more details circle NED-39 K5 on enclosed inquiry slip ▲

HOT METALLIC COATINGS
TIN
TIN - LEAD
Solder
LEAD

ELECTRO-PLATING
TIN
TIN - ZINC
TIN - LEAD
Solder
LEAD

ON BRASS, COPPER
STEEL
ALUMINUM
Fabricated and Cast

WANTED

"Wright" wants those extra tough Metalcoating jobs!

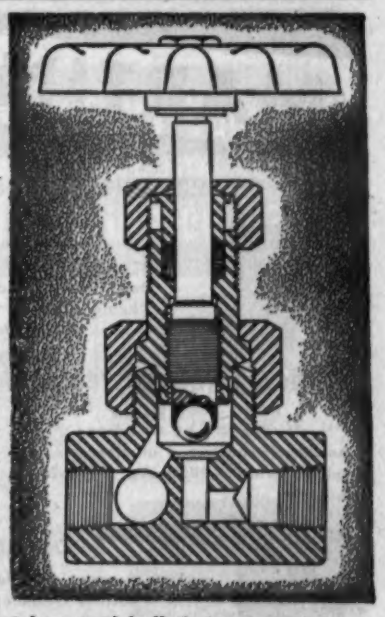
Developing advanced techniques to satisfy your most exacting needs . . . is our specialty.

Of course we're equipped to do the easier jobs too, and we'll be glad to quote on them.

WRIGHT METALCOATERS, INC.
255 West Street South Hackensack, N. J.

▲ For more details circle NED-40 K5 on enclosed inquiry slip ▲

NEW! BALL VALVE for liquids, gas or steam



Here's a radically-new forged steel valve for general heavy industrial use. Can't leak . . . practically never wears out . . . costs little or no more than ordinary valves!

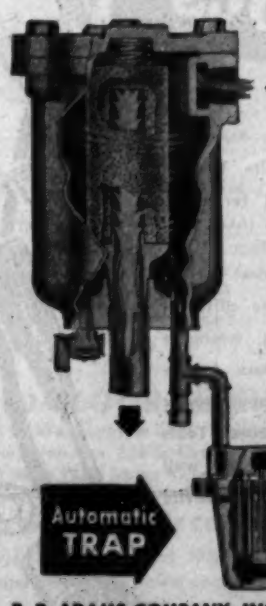
In place of a disc or plug, the new Foxboro Ball Valve has a retained, free-rolling stainless steel ball that exposes new surface to seat at every closing.

Foxboro Ball Valves handle pressures to 3000 psi. Available in straight-thru and angle types. Two or four connections to simplify piping. ¼" size. Write for detailed folder. The Foxboro Company, 6610 Neponset Avenue, Foxboro, Mass., U.S.A.

FOXBORO INSTRUMENTATION

▲ For more details circle NED-41 K5 on enclosed inquiry slip ▲

ADAMS FILTRATION for COMPRESSED AIR



Gets rid of —
OIL
WATER
PIPE SCALE

Adams Poro-Stone Filters efficiently remove oil, water, and pipe scale. There's virtually no service or maintenance. Automatic Trap eliminates attention — assures efficient filter operation.

- Permanent Poro-Stone element
- Centrifugal separation
- Diffused filtration
- Low pressure loss
- Prompt delivery of all sizes

Write today for Bulletin 117

R. P. ADAMS COMPANY, INC., 227 E. Park Dr., Buffalo 17, N.Y.

ADAMS *Poro-Stone* AIR FILTER

▲ For more details circle NED-42 K5 on enclosed inquiry slip ▲

A Dependable Source of

SPECIALTY TRANSFORMERS

Power Type
50 Watts to 5 KVA
Class A or H Insulation

Can be furnished with 8-point tap changing switch. We invite your inquiry on transformers which will match your specific requirements.

THE STRONG ELECTRIC CORPORATION
89 City Park Avenue • Toledo 2, Ohio
Quality Electrical Equipment for a Third of a Century

▲ For more details circle NED-43 K5 on enclosed inquiry slip ▲

MARTINDALE

ITEMS for PRODUCTION and MAINTENANCE

ELECTRIC ETCHERS

3 models to permanently etch ferrous metal items as easily as writing with a pencil. Also "Recipro-Tool" for marking other metals, plastic, glass, etc.

MICA UNDERCUTTERS

10 Models { 8 Electric / 2 Air-Driven

To handle commutators of all sizes and types including vertical. Illustrated is Air-Driven Mica-Miller.

PORTABLE Electric BLOWERS

3 more—powerful new models for blowing and vacuum cleaning—¾-1-1½ H.P. Write for full particulars.

"COMMSTONES"

5 grades for resurfacing commutators. 3 grades for iron and steel slip-rings. Sizes and handle styles for all needs.

WRITE FOR NEW CATALOG NO. 30

MARTINDALE ELECTRIC CO.
1387 HIRD AVE. CLEVELAND 7, OHIO

▲ For more details circle NED-44 K5 on enclosed inquiry slip ▲

GULMITE TOOLS

Send for our free brochure on Gulmite Tools—a serrated tool for every purpose.

Also listed are various sizes that fit the different makes of drives, wrenches and drive adapters. A partial list of manufacturers who use Gulmite Tools contains names of well known firms that invite confidence.

BERGANDER MFG. CO.
2129 WARNER AVENUE CHICAGO 18, ILLINOIS

▲ For more details circle NED-45 K5 on enclosed inquiry slip ▲

SALAMANDER
for space heating applications

Pressure regulator mounted on the No. 1415 salamander makes it unnecessary to have the gas cylinder nearby. Operation can be with 50 ft or more of hose. Heater features a safety shutoff and a pilot light with AGA-approved controls. Heat reflector skirt radiates heat upward. Input is 100,000 Btu per hour. Photo shows salamander use with high pressure hose and a No. 35 gas cylinder. Made by **Insto-Gas Corp.**, Dept. NED, 1977 E. Woodbridge Ave., Detroit 7, Mich.

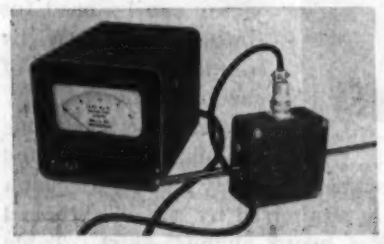
▲ For more details circle NED-46 K5 on enclosed inquiry slip ▲

HAND PRINTING PRESS
prints postcards, memos and labels

Solid rubber dies or interchangeable base lock rubber type can be used in this hand printing press for printing postcards, memos, labels or various other items. Portable press is made of cast aluminum in two sizes, 3⅛ x 6⅛ in. and 3⅛ x 8¾ in. Made by **Force Western, Inc.**, Dept. DW, 216 W. Jackson Blvd., Chicago 6, Ill.

▲ For more details circle NED-47 K5 on enclosed inquiry slip ▲

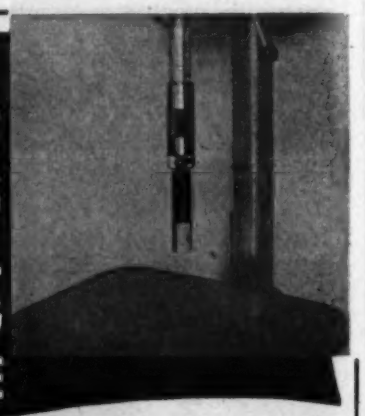
FEED RATE METER
reads cutting tool travel speed



Speed of travel of cutting tools, carriages and heads in low speed turning, boring and grinding operations can be accurately indicated from a fraction of an inch per minute up to 5, 10 and 20 ipm by the Maico feed rate meter. Pickup unit is easily mounted horizontally or vertically so that movements of the machine push a ⅜-in. drill rod through bearings in the unit. Speed is read directly from a large calibrated dial. Provision for use of a remote indicator or one indicator with any number of pickups is possible. Operation is on 110-117 v, 60 cycles ac. Overspeed or rapid acceleration will not damage either unit. Made by **Maico Co.**, Electronic Specialties Div., Dept. D1, Maico Bldg., Minneapolis, Minn.

▲ For more details circle NED-48 K5 on enclosed inquiry slip ▲

MAKES ANY DRILL PRESS A VERTICAL HONING MACHINE



SUPERIOR MD-1 MANDREL DRIVER

Speedier, more accurate hole finishing and sizing at half the cost of grinding or lapping.
Ideal for die work, bushings and dowel pin holes. Keyways and slots quickly honed to .0001 accuracy.
Permanent-type mandrel sizes .185 to 3.000 standard. Snap in place. Stones slide in and are securely locked by a twist of the cap. Size adjustable by turning driver body. Available in No. 2, 3 or 4 Morse tapers. Use coupon today for free literature.
SUPERIOR HONE EQUIPMENT IS STOCKED IN ALL PRINCIPAL CITIES.

SUPERIOR HONE CORPORATION
1613 Elreno Street Elkhart, Indiana
Please send free catalog on Superior Honing Machines.
NAME _____
FIRM _____
STREET _____
CITY & STATE _____
NAME OF SUPPLIER _____

▲ For more details circle NED-49 K5 on enclosed inquiry slip ▲

4½" CUSTOM PANEL INSTRUMENTS

The latest additions to the Phaostron line
CHECK THESE FEATURES . . . THEN COMPARE COSTS

METAL CASE. Won't chip, shatter or warp
LARGE, CLEAR SCALES. Easily readable from 10 feet
PERMANENT ACCURACY TO 2%. Metal cased meters never vary
ANTI-MAGNETIC. Shielded from stray magnetic fields
INSULATED ZERO ADJUSTMENT. Large, easy-to-use, safer

Two Models:

"CUSTOM" CHROME. Die cast bezel. Polished chrome and black.
"CUSTOM." Identical but finished in solid color.

Available with or without self-contained 5,000 hour lamps.
BUILT TO HIGHEST QUALITY . . . SOLD UNBELIEVABLY LOW

PHAOSTRON COMPANY
151 PASADENA AVENUE, SOUTH PASADENA, CALIFORNIA

▲ For more details circle NED-50 K5 on enclosed inquiry slip ▲

DETECTING LEAKS! is a BREEZE...
with the NEW Aqua Survey
AQUAPHONE!

AQUA SURVEY & INSTRUMENT CO.

The new, improved, super-sensitive Aqua Survey "Aquaphone" detects water leaks quicker, surer, easier than ever before, through a unique method of sound transmission making it so rugged in construction it will last you a lifetime.

A precisely weighed "red button ball" centered on the diaphragm inside the Aqua Survey Aquaphone "pretunes" it to the vibration frequency of water leaking through an opening. Water leak sound is transmitted through the probe and the "Aquaphone" housing to the diaphragm which vibrates sympathetically, transmitting the sound to the ear. Because there is no mechanical connection between the diaphragm and the probe of the Aqua Survey "Aquaphone," it never gets out of order and will give years of rugged, satisfying service.

UNCONDITIONALLY GUARANTEED
against mechanical failures, for lifetime of the instrument. Order one or more, NOW!

ORDER DIRECT!
Only $4.50 per unit postpaid, in lots of one to five, or 6 for $25.00. Used by hundreds of Municipal Waterworks Maintenance Men. Detailed Folder FREE on Request.

LOOK FOR THIS RED "BUTTON"—ONLY THE *GENUINE* Aqua Survey "Aquaphone" has it!

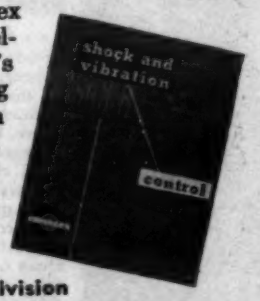
ONLY $4.50 EACH

The Aqua Survey & Instrument Company
2518 Leslie Avenue, Cincinnati 12, Ohio
Established 1936—Manufacturer of the famous Aqua Valve Box Locator

▲ For more details circle NED-51 K5 on enclosed inquiry slip ▲

How to solve shock and vibration problems in your plant

The story is told in this catalog . . . It explains the theories behind vibration isolation and shock absorption and shows you the Finnflex products that have been developed to apply them—industry's only *complete* line of isolating materials. For information on this scientifically engineered equipment, as well as details on Finn's specialized engineering counsel, write today for the Finnflex Catalogs.



T. R. Finn & Co., Inc., Industrial Division
200 Central Avenue, Hawthorne, New Jersey

VIBRATION FINNFLEX CONTROL

FINN
Specialists in shock and vibration control

▲ For more details circle NED-52 K5 on enclosed inquiry slip ▲

NAVEE '42

PULLS GREASE OFF ALL METALS ...LIKE A MAGNET!

Dip a greasy, heavily soiled piece of metal into a solution of NAVEE '42. Now, pull it out and see how clean and grease-free the metal is. NAVEE '42 actually attracts and holds on to grease like a magnet! If you have never seen NAVEE '42 in action, you'll be amazed how quickly and effectively it removes hardened and oxidized grease and oil, carbon stains, lead oxide, asphalt, tar, resins, tripoli, preservative coatings, printer's inks, etc. NAVEE '42 is used in wipe, dip or spray applications. It rinses with water to leave a clean surface. Non-toxic and non-explosive, NAVEE '42 guarantees greater safety, economy and degreasing effectiveness!

SEND FOR FULL INFORMATION!

the PENETONE co.

Box ND-1055, Tenafly, New Jersey

▲ For more details circle NED-53 K5 on enclosed inquiry slip ▲

HERE'S HOW TO MAKE Old Floors NEW in Minutes!

APPLY PRIMER SPREAD MAGIC FLOOR TAMP OR ROLL

MAGIC FLOOR patches or resurfaces any broken or cracked wood, brick concrete or steel floor instantly. It can be used indoors or outside.

MAGIC FLOOR is ready-mixed and easy to use. It will store indefinitely.

MAGIC FLOOR requires no drying time. Traffic can roll minutes after application. It sustains loads to 50,000 lb.

FREE Booklet tells all about our Trial Offer—Send for it TODAY!

RANCO INDUSTRIAL PRODUCTS CORP.
Quality Floorings and Waterproofings for Industry
13311 Union Avenue - Cleveland 20, Ohio
Representatives in principal cities

▲ For more details circle NED-54 K5 on enclosed inquiry slip ▲

LOADING DOCK SHIELD keeps out rain, snow and cold

Any railroad or truck loading dock can be made draft-free and virtually weatherproof by installation of this loading dock shield. The collapsible metal and canvas door hood fits standard size rail or truck dock doors, regardless of slight dimensional variances. An optional bottom cover is available for four-side protection. Shield holds taut when extended by means of high tension springs and folds flat, out of the way, when not in use. It is fire, water and mildew resistant and the material is UL-approved. Made by **Frommelt Industries**, Dept. 55-L.S.D., Box 165, Dubuque, Iowa.

▲ For more details circle NED-56 K5 on enclosed inquiry slip ▲

MAGNETIC PLATE CLAMP generates 1½ tons holding power

Edges of heavy steel plates can be pulled flush and held securely for butt welding by the Bux magnetic plate clamp. Measuring 21 in. high and weighing 50 lb, it generates 3000 lb of magnetic holding power, yet can be instantly removed from the job. It obviates much time and materials used in preparing jigs, dogs, mechanical clamps and fixtures. Clamp includes a one-piece leverage rod and pressure stud mounted on a swivel at a fulcrum point to enable one operator to perform lap welding easily. Unit is portable and requires no auxiliary rectifiers. Made by **Buck Mfg. Co.**, Dept. 1, 100 Roberts Rd., Los Gatos, Calif.

▲ For more details circle NED-57 K5 on enclosed inquiry slip ▲

Guide to Industrial Motion Pictures

United States Steel Corp.—Latest edition of "Motion Pictures" is catalog of the complete library of films prepared and distributed by this company for showings before interested industrial groups. Four new films have been added to the previously available twelve sound-color motion pictures dealing with development and application of steel in all walks of life. All are offered on a loan basis in 16-mm and some in 35-mm size.

▲ For more details circle NED-58 K5 on enclosed inquiry slip ▲

Something NEW in Accident Prevention!

360° INDUSTRIAL WARNING LIGHT

TRIPPE HI-BALL

STOP TROUBLE AT ITS SOURCE!

Mount anywhere at any DANGER point—powerful flash gives instant warning. May be used in many ways for many purposes. In combination with a siren gives visual warning as well as audible.

9½-in. diameter; plastic dome available in Red, Amber, Blue, Green or clear. Parabolic mirror revolves around powerful light source 60 times a minute. 115-130 V. A.C. Weight 6 pounds.

WIRE or WRITE for Catalog and Prices

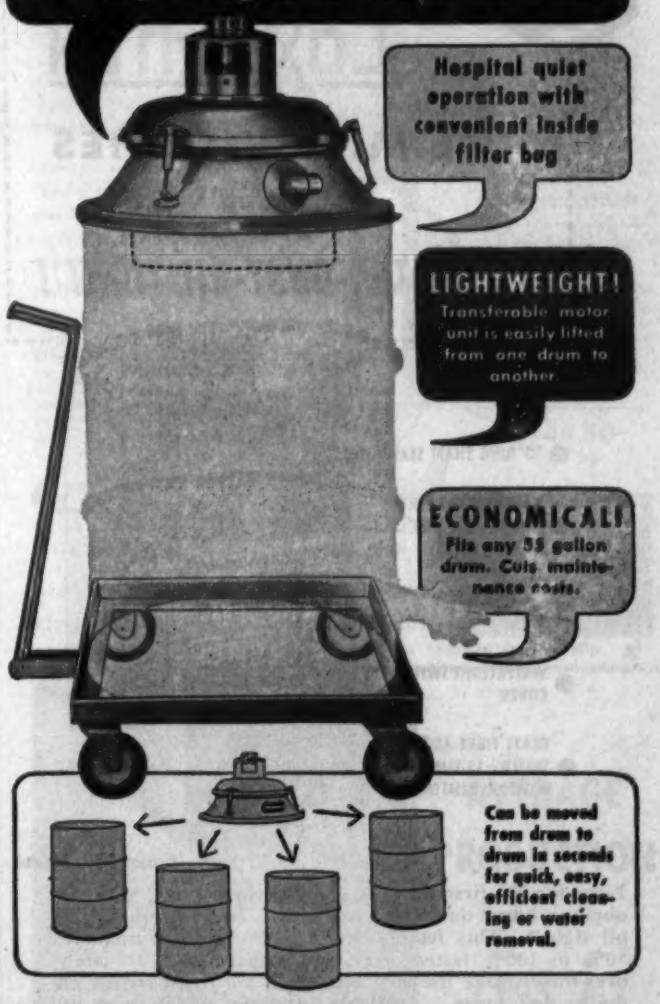
TRIPPE MANUFACTURING CO.
218-K N. Jefferson Street, Chicago, Illinois

▲ For more details circle NED-59 K5 on enclosed inquiry slip ▲

HILD's new Wet and Dry Vacuum

WITH TRANSFERABLE VACUUM HEAD

fits any 55 gallon drum on hand



PORTABLE! 4 wheel dolly available for easy moving.

The new HILD giant Industrial Vacuum Cleaner is equipped with a powerful ONE HP motor for Wet or Dry Pickup. Available with 1½" intake for picking up lighweight waste material, shavings, metal filings, dust, dirt and liquids. 4 wheel steel dolly available for easy moving of drum and unit. Vacuum head and dolly available separately.

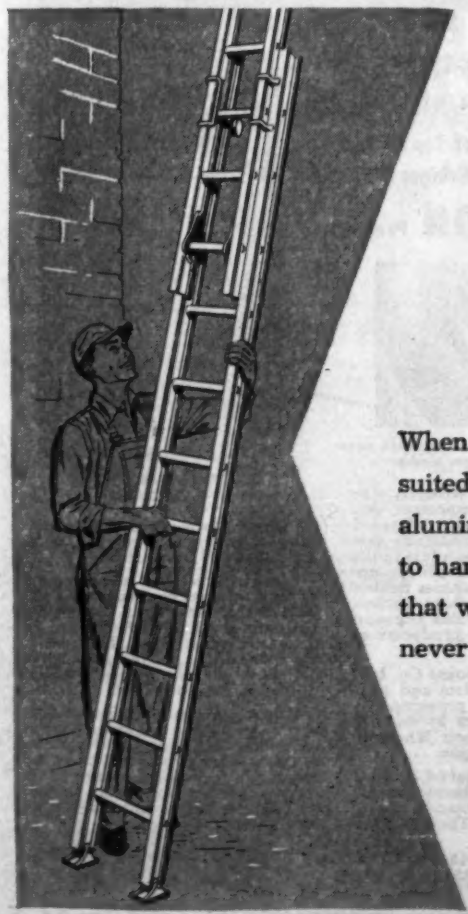
HILD FLOOR MACHINE CO.
740 W. Washington Blvd., Chicago 6, Ill., U.S.A.
Factory Branches: 250 E. 43rd. St., New York 17, N.Y.
4271 West Third Street • Los Angeles 5, California

HILD FLOOR MACHINE CO., 740 W. Washington Blvd., Chicago 6, Ill.

Gentlemen: Please send FREE details on the Wet and Dry Vacuum Cleaner with transferable vacuum head. NED-10-55

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

▲ For more details circle NED-60 K5 on enclosed inquiry slip ▲



ALUMINUM LADDERS

a maintenance man's dream— so light and strong last so long

When you select the ladder best suited to your job—make sure it's aluminum. Aluminum is light, easy to handle—strong as other materials that weigh three times as much—will never rust or rot.

Reynolds does not manufacture aluminum ladders but many leading manufacturers do use Reynolds Aluminum. For their names write to the *Reynolds Metals Company, P. O. Box 1800-NO, Louisville 1, Ky.*

REYNOLDS ALUMINUM

MODERN DESIGN HAS ALUMINUM IN MIND

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YOU NEED A . . .

DUPOR No. 10

Chemical Cartridge Respirator

Nearest thing to a gas mask! Double filters guard against nuisance gases, smoke, chemical fumes. Available in Code "A" for inorganic gases; Code "B" for organic vapors; Code "AB" for inorganic and organic use. Supplied with Code "B" cartridges unless otherwise specified. Order sample today, $5.00 postpaid.

H. S. COVER, SOUTH BEND, IND.
P. O. Box #2508
"Respirators for Industry since 1894"

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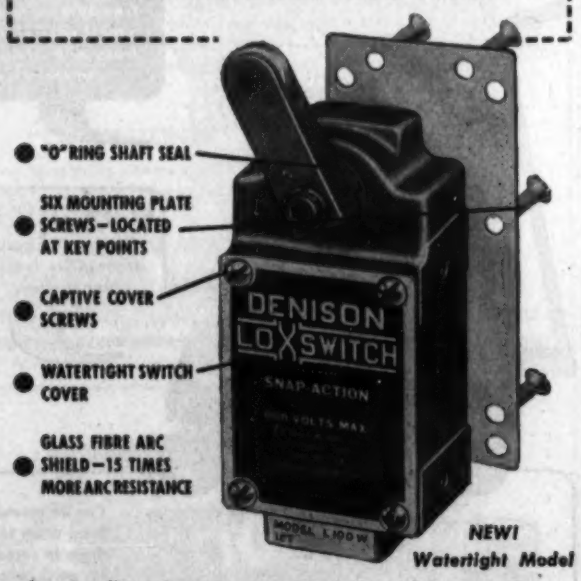
NOW! like a fine precision watch

LOXSWITCH

LIMIT SWITCHES are WATER-DUST-OIL TIGHT*!



NEW! Watertight Model

Now for the first time, at a competitive price, you can obtain a heavy duty limit switch that is water, dust, and oil tight.* This feature, plus double contact pressure, 50% to 100% faster break, low impact and 70° safety over-travel make the new Loxswitch the finest switch on the market today. Available in seven models with 19 contact arrangements. * NEMA TYPES 1-A, 2, 4, & 5.

Comparative Tests Prove LOXSWITCH Superiority

FEATURES	Series L100 LOXSWITCH	Heavy Duty Switch B	Heavy Duty Switch C
Electrical			
Contact Impact Mass—grams	2.45	11.03	7.83
Speed of 'Break'—in. per sec.	48	25	36
Typical 'Bounce'—milliseconds	4	16	4
Contact Pressure at trip point—oz.	8	4	4
Mechanical			
Operating Shaft Diameter	1/8"	1/4"	3/8"
Lever Roller Pin	Hard	Soft	Soft
Safety Overtravel	70°	30°	80°
Actuating Force—in. oz.			
To trip	125	220	185
for max. overtravel	135	435	230
for reverse travel	35	435	85
Number of Rotating Parts	4	6	9

All of the above Loxswitch features add up to far greater electrical and mechanical life—3 to 5 times greater under severe operating conditions.

FREE Loxswitch Catalog. Write for copy today

LOXSWITCH R. B. DENISON MFG. CO.
102 St. Clair Avenue, N. W.
Cleveland 13, Ohio

Specializing Exclusively in the Manufacture of Limit Switches

▲ For more details circle NED-69 K5 on enclosed inquiry slip ▲

WIRE-WOUND RESISTOR has transparent encapsulation

Determination of service failures caused by bubbles or strains is facilitated by transparent encapsulation of this wire lead precision wire-wound resistor. Also featured are electric welding of wire to the phosphor bronze leads and compact design. Resistors exceed requirements of Government specification MIL-R-93A. Made by **Shallite, Inc.**, Dept. N, 10 Mill St., Paterson 1, N. J.

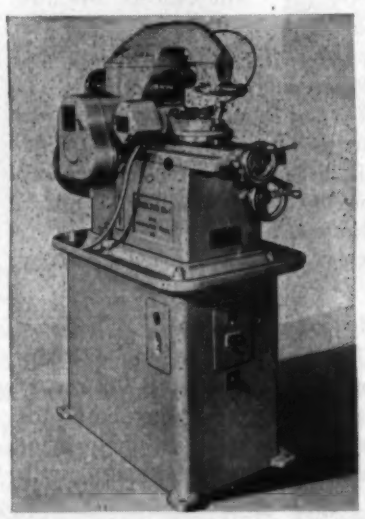
▲ For more details circle NED-70 K5 on enclosed inquiry slip ▲

SELF-STICKING FIGURES in six sizes from ½ to 5 in. high

Individual, self-sticking numbers and letters mounted on handy dispenser cards are now offered in ½, ¾, 1½, 2¼, 3½ and 5-in. high sizes. They are made in black-on-white and black-on-yellow color combinations and include the alphabet and numbers 0 through 9, plus dashes. Figures are made of Brady No. B-500 All-Temperature impregnated cotton cloth with temperature-resistant, pressure-sensitive adhesive. They will stick permanently to any clean, dry surface. Free usable samples are offered by **W. H. Brady Co.**, Dept. NED, 727 W. Glendale Ave., Milwaukee 12, Wis.

▲ For more details circle NED-71 K5 on enclosed inquiry slip ▲

HOBBING MACHINE design uses existing tooling



Alternate design for No. 1 small gear precision hobbing machine adapts it to the use of existing tooling, regardless of style or make of hobbing machine for which the tooling was built. This feature, optional at no extra cost, eliminates the money loss occasioned by scrapping of existing work holders. Hamilton hobber features independent selection of speeds, feeds and indexing. Made by **Hamilton Tool Co.**, 901 Hanover St., Hamilton 4, O.

▲ For more details circle NED-72 K5 on enclosed inquiry slip ▲

Buschman

PORTABLE WHEEL AND ROLLER CONVEYORS

• Immediate delivery from local dealers' stocks •

Complete range of models

Quickest, easiest to move . . . to put into operation . . . because of exclusive Buschman Quick-Eez coupling and lightweight aluminum or steel construction. Reversible straight and curved sections, switches, adjustable tubular stands and complete line of accessories are available in all sizes. Specify Buschman Quick-Eez couplings!

Write today for Bulletin 15.

O-416-EWB

PRODUCE MORE . . . FOR LESS
Buschman CONVEYORS

THE E. W. BUSCHMAN COMPANY
4482 Clifton Avenue
Cincinnati 32, Ohio

▲ For more details circle NED-73 K5 on enclosed inquiry slip ▲

FASTER, MORE ACCURATE INSPECTION WITH

FLASH-O-LENS Illuminated Magnifiers

In industrial inspection departments, on production lines, in foundries and laboratories, wherever close visual inspection is important, FLASH-O-LENS gets the job done better, faster. FLASH-O-LENS spots minute defects by spotlighting the area it magnifies.

Battery models, powered by standard flashlight cells, and AC-DC plug-in models are available with 5, 7, 20 or 40 power precision lenses to meet a wide range of inspection needs. Prices start from $10.95

PIKE REG. U. S. PAT. OFF.

WRITE TODAY for literature showing applications, types, prices.

E. W. PIKE & COMPANY, Inc.
492 NORTH AVENUE ELIZABETH 3, N. J.

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LEXCO HYDRAULIC LIFT TABLES

Pat. Pend.

save *money, time and energy*

Lift heavy castings, dies, machine accessories and other heavy articles—Use as adjustable work bench—Welder's positioning table—Leveling Table for Presses, conveyors, loading trucks, etc. Many other uses too numerous to mention.

- A new specially engineered method to give hydraulic power and ease. Table capacity 2000 lbs.—Hydraulic unit 3000 lbs.
- Table is 30" long by 20" wide by 30" overall height with an 18" raise to 48" overall height—hand pumped. Lowered fast or slow with simple release valve.
- Equipped with floor lock to anchor truck in position; controlled by foot pedal, toe release.
- Mounted on Two 5" rigid casters and two 5" swivel casters. All casters with bearings in axles.
- A safety first item to eliminate fractured limbs and strained muscles.

list **$187** f.o.b Lansdale, Pa. *Dealers Write*

LEXCO ENGINEERING & MFG. CORP.
P. O. BOX 161—DEPT N. COLMAR, PA.

▲ For more details circle NED-75 K5 on enclosed inquiry slip ▲

YOU CAN BE SURE...IF IT'S Westinghouse

...and CANADIAN WESTINGHOUSE CO. Ltd.

Makes Sure of Top Motor Performance in Wringer Washers with KLIXON Protectors

Klixon protected Westinghouse motor in the wringer washer

On a conventional wringer type washer, it is very important that overheat protection be provided for the motor. Theoretically this can be taken care of by a fuse in the circuit, but too often people uprate fuses — or put pennies behind them — if trouble develops. Experience has proven that this situation is one of the biggest producers of burned out motors.

Canadian Westinghouse Co. Ltd. overcomes this problem and provides positive motor protection in their wringer washers by using a Klixon Protector in their "Thermoguard" motor protection.

Should the motor shut off because of overheating, the "Thermoguard" with the Klixon Protector snaps the power off safely. Then, to start the motor again after it has cooled, the user merely pushes a button on the outside of the washer.

Manufacturer after manufacturer of motor-driven equipment has extended the life of his motors by building in Klixon Protectors . . . automatic reset types that restart automatically . . . manual reset types that have a "red button" which can be pushed to restart.

Protect your motor-driven products by specifying and using motors with built-in Klixon Protectors. A range of sizes is now available for inherently overheat protecting small shaded pole motors — up through the largest integral horsepower motors.

METALS & CONTROLS CORPORATION
SPENCER THERMOSTAT DIVISION
1910 Forest Street, Attleboro, Mass.

KLIXON

▲ For more details circle NED-76 K5 on enclosed inquiry slip ▲

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To obtain additional information on any items in this issue of NEW EQUIPMENT DIGEST, circle numbers below which correspond with those of the desired items. Your request will be forwarded promptly to the manufacturer. Please give your name, title, company and address. This postage-free mailer should be folded as indicated for mailing.

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1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
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45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
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K-5

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE.....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

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NEW PITT Air Operated Rotary INDEXING TABLE

- Positive indexing with loads up to 500 pounds
- Will not over-index
- Hydraulic cushioned stop
- Accurate indexing with positive locking device

Patent Pending

Heavy cast wall serves as bearing for table top. Insures rigidity for heavy operations.

Adjustable hydraulic control for cushioned stop.

Air operated type fork lever lock. Assures positive locking for accurate indexing.

Oversize cylinder delivers direct power to table top.

No gears, no ratchets, no fragile parts.

26" size with 6, 8, 10 or 12 stations

Write for Bulletin T-102

PITT INDUSTRIES
3002 GREGG ST., CARNEGIE, PENNSYLVANIA
Choice territories open for manufacturers representatives

▲ For more details circle NED-77 K5 on enclosed inquiry slip ▲

NOT A *PRETTY* PICTURE...

...but it shows RITE-HITE Loading Ramps have what it takes!

"Built like a battleship", RITE-HITE Adjustable Ramps operate for years without trouble, require only occasional oil-can lubrication. RITE-HITES are easy to operate, too— only light hand pressure raises and lowers the ramps. Easy to install, RITE-HITES require no piping, pumps, motors, wires, gears. Get all the facts and you, too, will get RITE-HITES. Send for illustrated literature today.

3 TYPES, 8 MODELS to suit your needs • EXCLUSIVE PRECISION COUNTER BALANCING

You can be sure—when it's a **RITE-HITE** *it's RIGHT!*

RITE-HITE DIVISION, Dept. B-105
***LOOMIS* MACHINE CO.,** 4th and PINE STS., CLARE, MICH.

▲ For more details circle NED-78 K5 on enclosed inquiry slip ▲

PUZZLED by a dust problem?

PANGBORN CAN SOLVE IT FOR YOU!

Pangborn Unit Dust Collectors give thorough, efficient dust control at any individual operation. Requiring little floor space, they can be located anywhere. Use the Pangborn Dust Collector to:

- Reclaim valuable material
- Reduce dust damage to expensive machinery and finished products
- Cut plant housekeeping costs
- Speed production —improve working conditions

Investigate Pangborn Unit Dust Collectors now! Shipped assembled . . . $545 and up. For details, write: Pangborn Corp., 2400 Pangborn Blvd., Hagerstown, Md. *Manufacturers of Dust Control and Blast Cleaning Equipment.*

Pangborn CONTROLS DUST

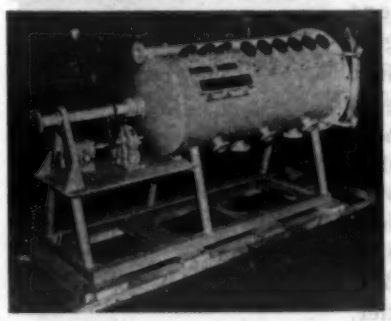
▲ For more details circle NED-79 K5 on enclosed inquiry slip ▲

VIBRATION ABSORBING MOUNTS adhesive-coated felt is easy to use

Used under machinery, Westorb adhesive-coated felt mounts absorb vibration and minimize noise. Because they are coated with adhesive on both sides, they are easy to install and permit quick relation of machines without need for bolts. Material is available in several thicknesses either cut to size or in flat sheets. Used exclusively by the textile industry for several years, these mounts are now offered to industry. Live fibers of the wool felt retain their spring after repeated impact loads, and felt is resistant to oil, grease and acids. A free sample will be sent by **Western Felt Works,** 4035 W. Ogden Ave., Chicago 23, Ill.

▲ For more details circle NED-80 K5 on enclosed inquiry slip ▲

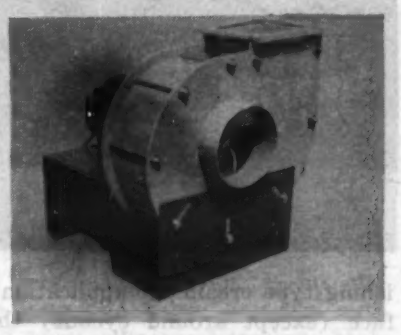
SELF-CLEANING FILTER capacity is up to 12,000 gph



This pressure leaf filter of the self-cleaning type is equipped with sight ports through which the individual filter leaves can be inspected. Ports can be dogged down quickly for operation of the filter. Capacity is 12,000 gph. Made by **Hercules Filter Corp.,** 199 Ethyl Ave., Hawthorne, N. J.

▲ For more details circle NED-81 K5 on enclosed inquiry slip ▲

SOLID PLASTIC FANS for corrosive fume removal



Fume removal under severe corrosive conditions can be handled by line of Rigivin rigid vinyl plastic or Rigidon glass fiber-reinforced plastic fans. The solid Rigivin units are designed for use with strong acid or alkali fumes, while Rigidon fans are intended for most acid services and high temperature applications to 200° F. Variable discharge positions for either plain or flanged inlet and outlet connections are available. Made by **Heil Process Equipment Corp.,** 12902 Elmwood Ave., Cleveland 11, O.

▲ For more details circle NED-82 K5 on enclosed inquiry slip ▲

50, 75, and 100 hp.

3 New Le Roi Stationary Compressors

Westinghouse Air Brake through its Le Roi Division now gives you low-cost air in a complete range of sizes from ½ to 100 hp. to suit your needs. With these new compressors you can now get larger capacities—200, 330, and 440 cfm at 125 lbs. pressure. In mines, quarry, shop, plant, or construction job, you can now get years of dependable service and save money Here's why:

Low-cost operation — 2-stage compression and intercooling give maximum efficiency. Air-cooling eliminates water costs, minimizes supervision.

Low-cost installation — Compact, use little floor space, reduce headroom. No water pipes, install anywhere. Light weight, minimum vibration — bolt to any substantial floor — save foundation costs.

Low-cost maintenance — Interchangeable valves. No anti-freeze needed, nothing to clog or scale. Moving parts protected by forced lubrication. Sight-level oil gauge. Crankshaft has tapered-rolled bearings — need for adjustment minimized.

Write for complete literature today SC-108A

LE ROI Division Westinghouse Air Brake Co.
Milwaukee 14, Wisconsin • Distributors in all principal cities

▲ For more details circle NED-83 K5 on enclosed inquiry slip ▲

Now... TWO NEW *Shallow* TYPES! R&S FLOOR BOXES

. . . Sized to Meet Modern Construction needs.

Two important newcomers have now joined the complete line of R & S Floor Boxes . . . No. 2519 round and No. 2510 rectangular! Both are the new shallow types, sized to meet many modern industrial and Commercial construction needs.

In Russell & Stoll Floor Boxes, you'll always find dependability at its best. Trouble-free service life is achieved through the finest of materials, workmanship and design features. Stand-out features include recessed cover flanges, adequate wiring space, interchangeable round or rectangular covers, adjustable leveling screws and heavy watertight gaskets. WRITE FOR BULLETIN 4A. R-3

A FAMOUS FAMILY... *A wide choice!*

RUSSELL & STOLL COMPANY, INC. • 125 BARCLAY STREET, NEW YORK 7, N. Y.

RUSSELL & STOLL

▲ For more details circle NED-84 K5 on enclosed inquiry slip ▲

CM Lodestar

ENTIRELY NEW... differently NEW

Built to serve you for its normal life without maintenance

Lodestar is the first truly "heavy duty" version of the small electric hoist. It will serve you without costly maintenance or interruptions in your work schedules.

FLEXIBLE LINK CHAIN

CAPACITIES: from ¼ to 1 ton. Single and 3 phase. ¼ ton model weighs only 51 pounds.

PUSH BUTTON CONTROL

$149.50 and up

WRITE US: Or call your CM distributor for literature, prices and quick delivery from stock.

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Chain Corporation
Tonawanda, New York
Regional Offices: New York, Chicago, Cleveland
In Canada:
McKinnon Columbus Chain Limited, St. Catharines, Ontario

▲ For more details circle NED-85 K5 on enclosed inquiry slip ▲

AVERAGE PRODUCTION 195 A MINUTE!

Yes, and this beautifully engineered Mateer Dual Head Filler fills either liquids or powders, including sterile products.

MATEER ELECTRIC FILLERS
Manual • Semi-Automatic • Fully-Automatic
handle all kinds of material and guarantee you the ultimate in filling performance

INCREASE PRODUCTION WITH THE FILLER THAT HAS MORE OF EVERYTHING YOU NEED, INCLUDING *SPEED!*

When investing in filling equipment, make your investment pay double profits by buying MATEER which fills both powders and liquids. Write Dept. N

G. DIEHL MATEER CO.
Lincoln Highway, Strafford, Wayne, Pa.

▲ For more details circle NED-86 K5 on enclosed inquiry slip ▲

Eliminate Sweeping

During Polishing, Steelwooling and Sanding Operations

New UNICO

DRY-VAC

SWEEPS AS IT POLISHES!

EASY TO USE!

New DRY-VAC attachment for Unico Machines does 2 jobs at the same time. For dry operations only. Vacuums dust and dirt and polishes floors in a single operation. Picks up ALL fine steelwool particles during steelwooling. No dust during disc sanding.

New UNI-VAC portable vacuum for wet and dry operations also available. Picks up water and soap solutions after scrubbing floors and rugs. Eliminates using brooms, mops, pails, wringers.

Floor Machines For Every Need

New Unico Floor Machines are packed with features that assure top efficiency, top value, lower operating costs. Simple and easy to use. Unequalled for scrubbing and polishing all types of floors. Quickly converted for all wet scrubbing operations. Shampoos rugs and carpets right on the floor. Interchangeable attachments permit waxing, sanding, buffing, steelwooling, all with the same machine. In 12", 13", 15", 17" and 20" brush sizes. Send for details now!

UNITED FLOOR MACHINE CO., Inc.
7719 S. Chicago Ave., Chicago 19, Ill.

▲ For more details circle NED-87 K5 on enclosed inquiry slip ▲

atomic decontamination to Zyglo inspection

More Production Problems are solved More Profitably with

VAPOR BLAST LIQUID HONING

Check your own production process for operations in cleaning, descaling, plating—surface finishing of practically any type, either your parts or the tools that produce them. Chances are Vapor Blast Liquid Honing can show you surprising savings, faster production, better products on all those jobs large or small.

Costs you *nothing* to prove the benefits of VB Liquid Honing—the original Wet Blast process. Just brief us on your operation—or send samples for free laboratory processing. We'll provide all the facts without obligation. There's a VB representative nearby to help you.

Vapor Blast is a Trade Mark • Liquid Honing is a Trade Mark

VAPOR V-B BLAST MILWAUKEE WISCONSIN

VAPOR BLAST MFG. CO.
3063 WEST ATKINSON AVE.
MILWAUKEE 16, WIS.

▲ For more details circle NED-88 K5 on enclosed inquiry slip ▲

WATLOW'S NEW FIREROD

CARTRIDGE HEATING UNIT

SAME HEAT in 1/5 the size!

- A NEW HIGH of 375 watts per sq. in. (500°F operating temp. with .005" fit in hole.)
- L-O-N-G-E-R cartridge life.
- LIGHTER WEIGHT and smaller size—for greater flexibility in installation and design application.

WRITE for Bulletin 355.

WATLOW ELECTRIC MFG. CO.
Since 1922—Designers and Manufacturers of Electric Heating Units

1374 FERGUSON AVE.
SAINT LOUIS 14, MO.

▲ For more details circle NED-89 K5 on enclosed inquiry slip ▲

SERVO MOTOR can operate up to 150° C

Small air gap in the Series 2287 size 15, 400-cycle servo motor results in a high torque-to-inertia ratio. It can be operated up to 150° C continuously for 1000 hours. Encapsulation of the stator in a thermosetting resin affords humidity protection. It measures 1.437 in. OD by 1.640-in. long, weighs 8 oz, has a no-load speed of 4800 rpm and has minimum stall torque of 1.45 in.-oz. The fixed phase operates on 115 v and the control phase may be connected for 115 or 57.5 v. Motor for 60-cycle operation has a minimum no-load speed of 3200 rpm. Made by **John Oster Mfg. Co.**, 3 Main St., Racine, Wis.

▲ For more details circle NED-90 K5 on enclosed inquiry slip ▲

TUBE PULLER straight and angle models

Hot tubes can be removed from electronic and communications equipment without burning fingers by this hot tube puller. Straight and 90-degree angle (illustrated) models are available. Puller is used by clamping over the desired tube and pulling up and out. Made by **Hunter Tool Co.**, 6606 S. Gretna Ave., Whittier, Calif.

▲ For more details circle NED-91 K5 on enclosed inquiry slip ▲

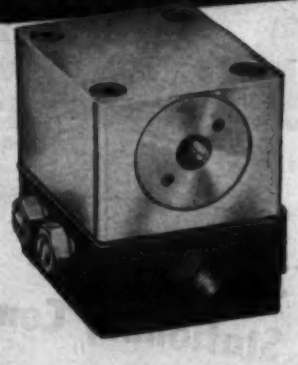
PROTECTIVE HAND CREAM contains silicone and lanolin

Skin is protected against most common irritants, chemicals, detergents, dyes, soaps, poison ivy, etc., by Sanchia Protective Cream. It is a greaseless vanishing type cream for application to hands, arms and face (except around eyelids) that contains 10 per cent silicone and 1 per cent lanolin. Once inactive ingredients are evaporated and absorbed, remaining film consists of about 50 per cent silicone and 5 per cent lanolin. Cream is resistant to heat and cold, liquids and powders. Made by **Otis Clapp & Son, Inc.**, Dept. N, 439 Boylston St., Boston 16, Mass.

▲ For more details circle NED-92 K5 on enclosed inquiry slip ▲

AUTOMATION AT LOW COST ... ON ANY OPERATION

WITH THE CARTER Cartridge AIR VALVE



Now, completely automate *any* air cylinder operation. Speed up production with positive, fast action cycles. Solenoid or air poppet control. Stainless steel and nylon wear-parts for long wear. Ask your Carter representative or write.

Carter Controls, Inc.
2876 Bernice Road
Lansing, Ill. • GRanite 4-3305

IT'S UNITIZED!

- Cartridge Solenoids
- Cartridge Lever or Palm Poppets
- Cartridge Power-Head
- Nylon and Stainless Wearing Parts
- Corrosion Proof Construction
- Built-in Speed Controls
- Simplified Maintenance

Once installed, all working parts may be replaced without removing valve or disturbing any existing pipe connections.

EVERY ENGINEER WILL WANT A COPY OF THIS NEW BULLETIN

▲ For more details circle NED-93 K5 on enclosed inquiry slip ▲

Introducing the new 100-TON FEDERAL PRESS with air clutch

Shown for First Time at the National Machine Tool Show in Sept. 1955

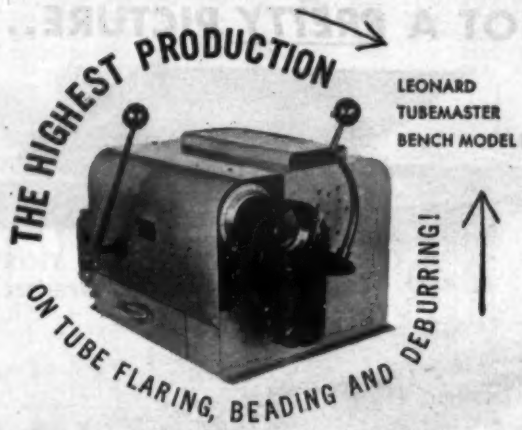
This new Federal was enthusiastically received at Chicago! Look at its many safety, high-speed features. Electro-pneumatic control. Dual-solenoid valve. Air-actuated clutch. Inch-timing. Continuous as well as single-cycle operation. Highest quality materials and workmanship.

FEDERAL PRESS CO., 506 Division St., Elkhart, Ind.

Write for new catalog today!

FEDERAL PRESSES
30 Years of Quality Construction

▲ For more details circle NED-94 K5 on enclosed inquiry slip ▲



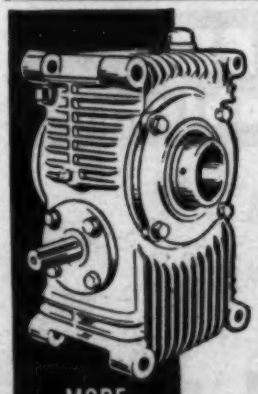
LEONARD TUBEMASTER BENCH MODEL B&C

...for a new low, low cost!

The Leonard Tubemaster Bench Model B & C obsoletes all hand methods and hand tools. Foolproof to operate because it's quality built—Accurate—to meet government specifications. Compare price—Compare machines, you'll find Leonard Tubemaster the finest value in its field—write now.

Leonard PRECISION PRODUCTS CO.
9200 Bolsa Ave., Santa Ana, California
WEstminster 5261

▲ For more details circle NED-95 K5 on enclosed inquiry slip ▲



ANNOUNCING CONE-DRIVE SHAFT MOUNTED SPEED REDUCERS

MORE HP PER POUND • MORE HP PER CUBIC INCH • MORE HP PER DOLLAR

Here's a versatile new member of the Cone-Drive line. It's the only speed reducer that provides all the features of the double-enveloping worm gear design plus the many advantages of shaft mounting.

These new reducers can be readily motorized, too. A simple bell housing is available to accommodate standard NEMA C-type flanged motors without using expensive couplings.

Standard reduction ratios range from 5:1 to 60:1. Bore sizes accommodate shafts from 1" to 2½". All sizes are available from stock.

Complete engineering details in Bulletin CD-323. Ask for it.

CONE-DRIVE GEARS

▲ For more details circle NED-96 K5 on enclosed inquiry slip ▲

STA-WARM COMPOUND MELTERS *more than* "PAY THEIR WAY"

There's more to efficient melting, conveying and dispensing of heated compounds than meets the eye.

This specialized field requires good engineering backed by much and varied practical experience in the peculiarities incident to temperature changes of the material, in order to come up with a melting tank that "pays its way".

New model pot for waxes and protective coatings. Variable thermostat. Pilot light. Steel housing. Cast aluminum liner. 110 v. A-C. Made in numerous sizes.

Sta-Warm engineers have this experience and know-how. They offer you a *complete package,* an efficient and economical operating tank or pot or kettle that is ready to go to work for you the moment it is uncrated in your plant. It will do *the job it's designed to do.*

Just outline your requirements and ask Sta-Warm to recommend the right *"package"* for your job. No obligation Write today.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

For more details circle NED-97 K5 on enclosed inquiry slip

range...
1 to 1000 microns

CVC thermocouple Vacuum Gauge
offers high sensitivity, rapid response

It is the *CVC* type TG-029, single-station unit. Designed around a printed circuit, the *CVC* instrument is compact, portable, and priced considerably lower than the previous single-station model. Its outstanding features include—

- No compensating adjustments—just plug it into a 115-volt, 60-cycle, AC outlet and turn on the power switch.
- Measures the total pressure of condensable vapors and permanent gases.
- Is not harmed by exposure to atmospheric pressure.
- One direct reading meter scale covers the range from 1 to 1000 microns Hg.

The gauge tube is also *new*—it's the type TG-77 which is rugged and less subject to organic vapor contamination. Its electrical characteristics do not vary appreciably from one tube to another.

For information on this and other *CVC* Vacuum Measuring Gauges, write *Consolidated Vacuum Corporation, Rochester 3, N. Y.* (a subsidiary of Consolidated Engineering Corporation, Pasadena, California).

CVC

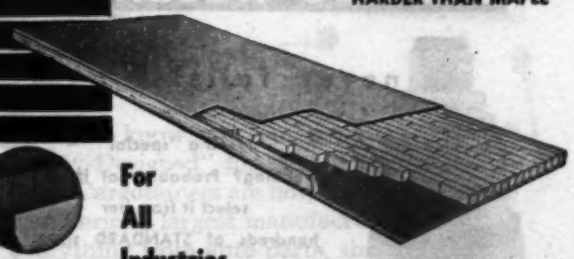
Consolidated Vacuum Corporation
Headquarters for High Vacuum —— ROCHESTER 3, N. Y.

sales offices: New York, N. Y. • Chicago, Ill. • Boston, Mass. • San Francisco, Calif. • Camden, N. J.

For more details circle NED-98 K5 on enclosed inquiry slip

NEW WORKBENCH TOP ... Resinwood®

Shop Top 30% "HARDER THAN MAPLE"



For All Industries

TOUGH
WARP-FREE
SPLINTER-PROOF

ShopTop quality is superior to maple—with up to 50% greater economy. Select kiln dried cores, bonded under pressure and heat, provide a built-in impact cushion to give longer life. Smooth Resinwood facings resist acid, alkali, oil, and grease. For new or replacement work benches.

Made in a wide range of stock sizes. Available through selected industrial distributors in principal cities or write direct for sample and complete information.

RIMCO — ROCK ISLAND MILLWORK COMPANY
RESINWOOD DIVISION
Established 1868 Rock Island 4, Illinois

For more details circle NED-99 K5 on enclosed inquiry slip

MINIATURE TEMPERATURE RECORDER
in ranges from −40 to 140° F

Rapid range change made by simply inserting new chart is featured by model 8465 bimetal actuated miniature temperature recorder for use in cold storage rooms and refrigerator cabinets. The self-contained instrument is unaffected by atmospheric pressures and is built to withstand the severe service encountered in modern transportation. Pen operates directly off sensing element. Recorder is furnished for wide range of operating temperatures from −40 to 140° F in 50 and 100-degree included spans. Standard thermometer is used as reference to adjust range changing screw. Made by **Weston Electrical Instrument Corp.,** 617 Frelinghuysen Ave., Newark 5, N. J.

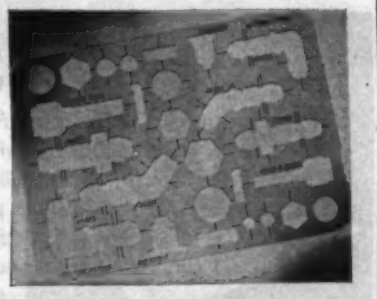
For more details circle NED-100 K5 on enclosed inquiry slip

SOLDERLESS LUGS
feature low silhouette

Only six sizes of SS type solderless lugs are required for cables ranging from No. 14 through 1 million circular mils. Their low silhouette makes them suitable for installation in close quarters. Made of copper alloy, they have high conductivity and strength. Open barrel end insures proper cable insertion depth. Made by **H. B. Sherman Mfg. Co.,** Dept. NED, 1950 Barney St., Battle Creek, Mich.

For more details circle NED-101 K5 on enclosed inquiry slip

DRAFTING TEMPLATES
line includes fluid fitting cutouts



Additions to line of drafting templates makes it possible to draw many engineering shapes and symbols to standard specifications. Included in line are templates for electrical and electronic symbols; fluid fittings in 3/16 and 5/16-in., ¼ and ⅜-in., ½-in., and ¾-in. sizes; full-size nuts and bolts; half-size nuts and bolts; small and large ellipses; lettering; tooling; circles and sheet thickness. Templates are made of 0.025-in. thick amber-coated vinyl plastic and have straight edges, circles and round corners which add to their utility. Made by **E. F. Twomey Co.,** Dept. NE, 728 W. Tenth Pl., Los Angeles, Calif.

For more details circle NED-102 K5 on enclosed inquiry slip

A JOMAC for every hand

Whatever your plant operation, there's a Jomac® Work Glove to give your workers the hand protection they deserve. Jomacs cost little, wear like iron, can be cleaned repeatedly.

Style No. 666 Send for trial order of 1 doz. No. 666 at gross lot price. Write for new Jomac catalog. Jomac Inc., Dept. G, Phila. 38, Pa.

JOMAC
Industrial Work Gloves
Outwear ordinary work gloves by 900%
Plants in Philadelphia, Pa. and Warsaw, Ind.
In Canada, Safety Supply Company, Toronto.

For more details circle NED-103 K5 on enclosed inquiry slip

Chip Away

SCALE
RUST
PAINT

AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for complete details

AURAND MFG. & EQUIPMENT CO.
1210 Ellis St., Cincinnati 23, Ohio

For more details circle NED-104 K5 on enclosed inquiry slip

DeLuxe CUTS INSTALLATION EXPENSE 50% OVER ORDINARY SHELVING

TIME CONSUMING INSTALLATION DETAILS ELIMINATED...

HERE ARE GOOD REASONS WHY DELUXE BUILT-IN FEATURES MEAN LOWER SHELVING COSTS TO YOU:

SPEEDS ASSEMBLY — One piece bin type upright — offers I beam strength. Speeds assembly.

• Shelves have reinforcing bar imbedded into front and rear flanges and returned into the end flanges where they engage the uprights.

FREE CATALOG

. . . Write for complete 48 page fully-illustrated catalog of DeLuxe Steel Shelving.

DELUXE METAL FURNITURE CO.
393 STRUTHERS ST., WARREN, PA.
DIVISION OF ROYAL METAL MANUFACTURING COMPANY

For more details circle NED-105 K5 on enclosed inquiry slip

Save! with carbon and graphite molds and dies

The ease with which carbon and graphite molds may be formed or machined to close tolerances often spells real economy. *In foundry work,* their high heat capacity makes them ideal as chills for both ferrous and non-ferrous metals. *In powder metallurgy,* they withstand heavy pressure at high heat and are widely used for hot pressing tungsten carbide base tool materials. And there are many other uses! Write on letterhead for Catalog 40A.

STACKPOLE
STACKPOLE CARBON COMPANY, *St. Marys, Pa.*
EVERYTHING IN CARBON BUT DIAMONDS

For more details circle NED-106 K5 on enclosed inquiry slip

NEW FORD Solid Carbide End Mills

The new Ford line of solid carbide end mills includes styles with 2 or 4 flutes — straight or spiral. Square and ball end tools are available. All Ford mills are machine ground to give uniformly accurate flute form and a constant relief angle for longer life, smoother finish and faster cutting.

Write Today for new Bulletin No. 509.

Rotary FORD Tools

M. A. FORD MFG. CO., INC.
721 W. RIVER STREET, DAVENPORT, IOWA

▲ For more details circle NED-107 K5 on enclosed inquiry slip ▲

The most economical elevator for HEAVY-DUTY SERVICE

Simplicity of design, construction and control, plus the economy of oil-hydraulic operation, make the Rotary Oildraulic Elevator tops in efficiency, for freight or passenger service.

No costly penthouse or heavy load-bearing shaftway structure is needed . . . the car and its load are supported by the hydraulic system. Rotary's compact electric power unit can be located on any landing and anywhere within 50 feet of the elevator, saving the expense of a special machine room in most installations.

Rotary elevator cars are ruggedly built to withstand the shocks and jolts of power truck loading. Automatic floor leveling within ¼" accuracy is guaranteed, regardless of load or speed. The revolutionary Rota-Flow oil-hydraulic power system gives you maximum economy and dependability.

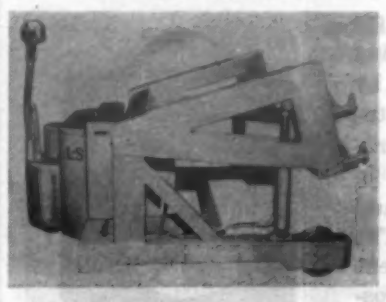
Mail coupon for new freight or passenger elevator catalogs

Rotary Lift Co.
1018 Kentucky, Memphis 2, Tenn.
Send catalog on ( ) freight ( ) passenger elevators.
Name_____
Address_____

Rotary **Oildraulic® Elevators**
Rotary Lift Co., Memphis, Tenn.

▲ For more details circle NED-108 K5 on enclosed inquiry slip ▲

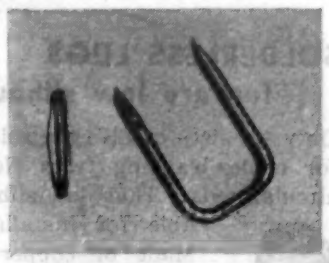
CABLE REEL TRUCK handles up to 90-in. reel diameter



Cable reels weighing up to 10,000 lb with 36 to 90-in. diameters and up to 68-in. widths can be accommodated by this battery-powered walkie electric truck. It handles different diameters without adjustment. Synchronized hydraulic cylinders on each arm lift the reels. Lifting and lowering controls, as well as brake, traction, direction and horn are located in the handle head. Capacities up to 20,000 lb are available. Made by **Lewis-Shepard Products, Inc.**, Dept. R-25, Watertown 72, Mass.

▲ For more details circle NED-109 K5 on enclosed inquiry slip ▲

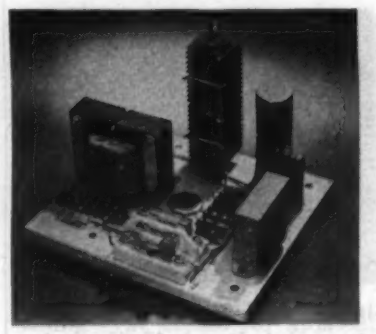
CABLE STAPLE strengthened with special head



Trusslike rib pressed into the head of Eazy-Drive cable staples replaces the conventional flat head construction and gives staple head additional stiffness. The barbed legs have been retained to insure secure imbedding in wooden beams or joists and in plaster or cinder blocks. Staples are available in 1 and 1¼ in. inside lengths for use with BX or Romex nonmetallic or armored cable. Made by **E. H. Titchener & Co.**, 79 Clinton St., Binghamton, N. Y.

▲ For more details circle NED-110 K5 on enclosed inquiry slip ▲

DC POWER SUPPLY requires no warm-up period



Up to 500 v dc and 500 milliamperes for all types of signal and control systems are available from this selenium bridge rectifier power supply unit. It is built in various mechanical arrangements to fit original equipment requirements. Device features good voltage regulation during overloads, protection against short circuit damage, low internal impedance and choke-condenser hum filtering. No warm-up is required. It is also applicable to excitation of magnetic chucks, small motors, alternators or dynamometers. Made by **Slaughter Co.**, Dept. N, 1700 Nicklin Ave., Piqua 1, O.

▲ For more details circle NED-111 K5 on enclosed inquiry slip ▲

DOWNS SAFETY GRABS ...GRIP ANYTHING!

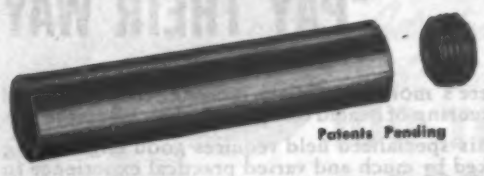
FOR CRANES AND HOISTS...
Material lifting equipment will do more work—faster, easier—when you have the proper "grabs" for every type of load. No matter what your hoists are handling—pipe, rails, drums, plate or structural steel, stone, timber, boxes or odd-shaped objects of any description—there's a DOWNS *Safety* Grab that will enable you to do it faster, easier *and* safer. Learn new short cuts to greater efficiency for YOUR plant with DOWNS' *complete line* of *Safety* hoist grabs!

Write for Free Illustrated Cat. 200B-6 Today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE • LOS ANGELES 37, CALIF.

▲ For more details circle NED-112 K5 on enclosed inquiry slip ▲

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



Patents Pending

One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES:
3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., DETROIT 19, MICH.

▲ For more details circle NED-113 K5 on enclosed inquiry slip ▲

Use **GENERAL PLATE** Composite Contacts to cut costs,

Brighten Your Product's Future

increase production, and provide reliable performance

General Plate's "know how" in the production of Composite Contact Materials can indeed brighten your products' future. By having General Plate fabricate your complete contact assemblies, you will save money, time, and trouble . . . eliminate needless equipment cost and problems of scrap disposal . . . and have at your disposal contacts and contact assemblies made to exact specifications shipped to you ready for installation when you want them.

Or, you may prefer to fabricate your own assemblies. General Plate Composite Contact Materials — available in overlay, edgelay, toplay and inlay strips — make it possible for you to produce complete contact assemblies to close tolerances by simple blanking and forming operations.

In either case, comparison of the final costs of properly designed Composite Contact Assemblies fabricated from General Plate Composite Contact Materials against costs of similar assemblies produced by older methods of brazing, welding, staking, or spinning will reveal the resultant economies and fabricating ease available to you.

Write for complete information and catalog PR700 which describes General Plate Composite Contacts and other General Plate Composite Metals.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
810 FOREST ST., ATTLEBORO, MASS.

▲ For more details circle NED-114 K5 on enclosed inquiry slip ▲

For RAZOR STROPS or TENTS or SAILS

BUFFALO WEBBING never fails!

Need a "special" webbing? Probably not if you select it from our hundreds of STANDARD sizes, widths, weights, solid colors and patterns. That means real SAVINGS for you.

WRITE for samples and prices

★ STRONG! ★ PLIABLE! ★ ADAPTABLE!

BUFFALO WEAVING and BELTING CO., INC.
209 CHANDLER ST. BUFFALO, N. Y.

▲ For more details circle NED-115 K5 on enclosed inquiry slip ▲

ACE NYLON BALLS

KEEP THINGS MOVING SMOOTHLY IN HUNDREDS OF INDUSTRIAL APPLICATIONS!

MASS-PRODUCED OF DuPONT NYLON FM No. 10001 TO CLOSE TOLERANCES OF ±.001. Sizes 1/8" to 3/4"

Ace Nylon Balls have brought new design flexibility and production economy to many of America's largest manufacturers. Uniform, precision-fabricated, light-weight Ace Nylon Balls are tough at low temperatures, stable at high temperatures, and resistant to chemicals and abrasion. Ace Nylon Balls may add greater efficiency and economy to your products, too.

Write for samples, bulletin, price list today

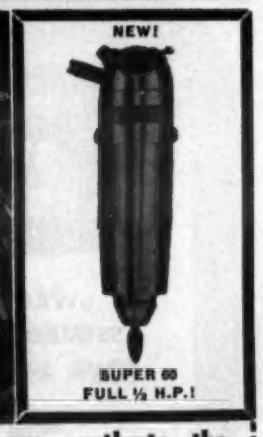
WHY NOT LET OUR ENGINEERS ADVISE YOU?

Complete facilities for fabricating plastic parts for all industries. Estimates submitted promptly on receipt of blueprints or specifications.

ACE PLASTIC COMPANY
Precision Plastic Fabricators and Extruders

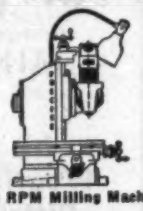
91-28 Van Wyck Expressway • Jamaica 35, N. Y.

▲ For more details circle NED-121 K5 on enclosed inquiry slip ▲



the POWER QUILL outperforms, outlasts the outmoded lathe grinder!

The Precise Power Quill is a small powerful high precision tool that outperforms and outlasts old fashioned lathe grinders, yet the Power Quill costs less! It can be mounted on any standard machine tool to mill, grind, or finish to tolerances of .0001". Operates at speeds up to 45,000 RPM, develops up to ½ H.P. and works on any material with abrasive wheels or tungsten carbide tools.



High RPM Milling Machines

Super 30 Grinder Miller

ATTACH THIS AD TO YOUR LETTER HEAD FOR A FREE DEMONSTRATION OR LITERATURE!

Quality and Precision since 1882

PRECISE PRODUCTS CORPORATION
1328 Clark Street, Racine, Wisconsin

Precise

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How to reduce materials-handling costs!

Did you know you can get Cargotainers® "Duty-Designed" for your particular products? Cargotainers are now working for some of America's largest manufacturers handling everything from auto parts, thread, smoked ham, plastic, electrical equipment—yes, even to the U. S. mail. Cargotainers pay for themselves quickly because they reduce damage to merchandise and equipment, double storage space, speed production, save labor.

A new 24-page illustrated manual has just been published. Regardless of the type or kind of products you make, you should have a copy. It's yours for the asking. **Pittsburgh Steel Products Company, 1407 Grant Building, Pittsburgh 30, Pennsylvania.**

▲ For more details circle NED-123 K5 on enclosed inquiry slip ▲

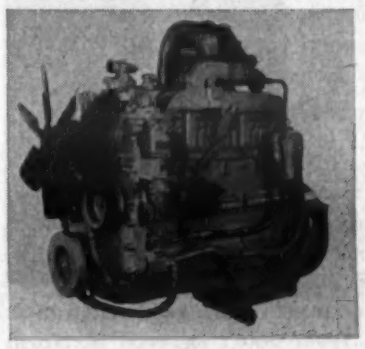
BATTERY & CHARGER LEASING PLAN reduces initial cash outlay for electric industrial truck users

Purchasers of electric industrial trucks may now lease batteries and chargers for periods up to five years by selecting one of several Exide leasing and purchase option agreements. Yearly savings of from $313 for one truck in one-shift operation to $14,860 for ten trucks in three-shift operations can be accrued.

Elimination of cash outlays for battery and charger reduces initial cost of electric truck chassis, battery and charger by about $2800. Leasing plans can also be used to convert or modernize old equipment and replace other power sources. Exide-Ironclad batteries feature slotted tube positive plate design and incorporate Silvium, a corrosion resistant grid alloy, and acidproof, noncorroding polyethylene as tube and sealer material. Details of plan are available from **Electric Storage Battery Co.**, Exide Industrial Div., Dept. 1-AD, Philadelphia 2, Pa.

▲ For more details circle NED-124 K5 on enclosed inquiry slip ▲

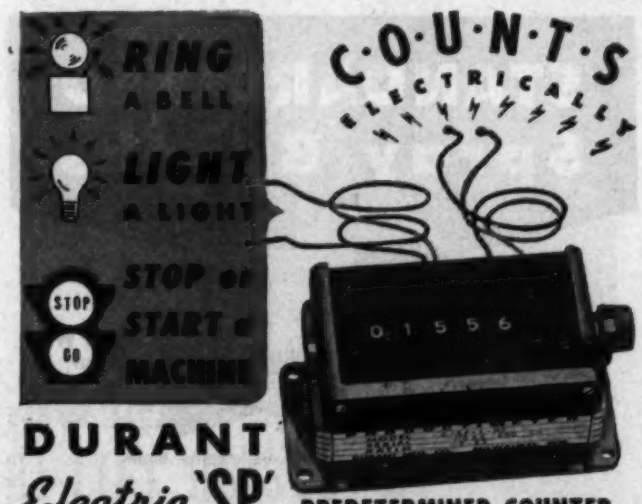
DIESEL ENGINES 250 and 262-hp turbocharged models have 15.5 to 1 compression ratios



Rated at 250 and 262 hp at a maximum speed of 2100 rpm, NT-6 and NTO-6 diesel engines are turbocharged to achieve a more perfect air-fuel mixture in the combustion chamber. Turbocharger itself is a simple gas turbine located in the exhaust system which packs a maximum of air into the cylinder to allow a large fuel charge to be burned completely, thus creating additional horsepower.

Both engines are six cylinder, four-cycle type with bore and stroke of 5⅛ x 6 in. and piston displacement of 743 cu in. Compression ratio is 15.5 to 1. Turbochargers are available mounted on side or top. Other engine features are fully counterbalanced drop-forged alloy-steel crankshaft, induction hardened bearing journals, viscous type vibration damper on front end of crankshaft and PT fuel system. Latter permits operation on all commercial diesel fuel weights, although No. 2 diesel or furnace oil is recommended. Made by **Cummins Engine Co.**, Dept. NED, Columbus, Ind.

▲ For more details circle NED-125 K5 on enclosed inquiry slip ▲



DURANT *Electric* **'SP'** PREDETERMINED COUNTER

(COUNTS ELECTRICALLY and CLOSES SWITCH AT END OF PRE-SET COUNT)

Eliminates costly over-runs or time consuming under-runs. Actuated by Photo Electric Cell, Tube, Relay, or Contact Switch. Counter can be located where desired. Predetermined count may be set at any figure to 99,999. Hundreds of applications in all phases of production and instrument work.

SMALL • COMPACT • RUGGED • FAST • ACCURATE

Send for Catalog No. 56

DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis. — 122 S. Water St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

▲ For more details circle NED-126 K5 on enclosed inquiry slip ▲

THE HAMILTON
PORTELVATOR®
(Portable Elevating Table)

MAKES IT *Easy* TO LIFT • LOWER LEVEL • TRANSPORT LOADS UP TO 5,000 lbs.

3 TABLE SURFACES
Can be worked at from ALL 4 SIDES
Slow or fast lift.
Self locking at any height.
4 POINT SUPPORT (table can't tip)
Lift mechanism can be operated from either end.
Turns easily on anti-friction casters. Positive floor lock.
WELDED CONSTRUCTION

FREE BULLETIN
Write The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio. Ask for Bulletin No. 5412.

*THREE STANDARD MODELS TO CHOOSE FROM

IT'S A *Hamilton Tool*
USE IT WITH CONFIDENCE

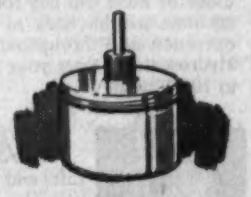
▲ For more details circle NED-127 M5 on enclosed inquiry slip ▲

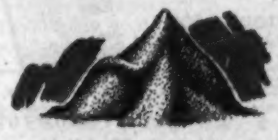
You name it- MOYNO® pumps it!

Foods
Potato salad, chow mein, peas, cream-style corn, tomatoes, molasses, chocolate.

Chemicals
Caustics, acids, dyes, petroleum solvents, soaps, sludges, latex, synthetic resins.

Pastes
Paper coating, starch, seam paste, size, adhesive dope, heavy grease, graphite sludge.



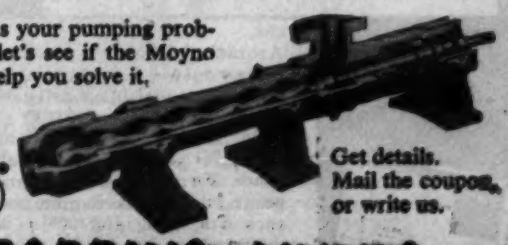


Abrasives
Insulator clay, frit, ground glass and water, porcelain glaze and enamel, cement, plaster.

R&M Moyno pumps handle almost anything that will pass through a pipe. Whether your problem is one of materials, maintenance, accurate metering, or flow, chances are the Moyno is the pump you are looking for.

The Moyno is a different kind of pump. A screw-like rotor turning in a double-threaded stator creates cavities that progress toward the discharge end of the pump, carrying the material being handled without churning, foaming, or crushing. Industrial Moynos are available with capacities up to 250 gpm; pressures up to 600 psi. Small Moynos are designed for washers, sprayers, drink dispensers, etc.

Tell us your pumping problem; let's see if the Moyno can help you solve it.



Get details. Mail the coupon, or write us.

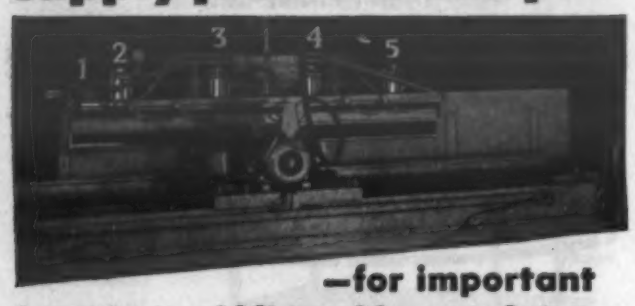
ROBBINS & MYERS, INC.
Springfield, Ohio • Brantford, Ontario

MAIL THIS COUPON FOR INFORMATIVE BULLETIN

Robbins & Myers, Inc., Springfield, Ohio — ND-105
Please send me free bulletin on Moyno pumps.
My problem is pumping _____
Name _____
Firm _____
Address _____
City _____ State _____

▲ For more details circle NED-128 K5 on enclosed inquiry slip ▲

5 NOPAK Cylinders supply pressure and pull



—for important functions of Victor Veneer Jointer

Built by E. V. Prentice Co., Portland, Ore., this jointer employs a NOPAK Model E, 2½" x 6" Cylinder to operate the stops which align the stock, and 4 NOPAK Model D, 6" x 5" Cylinders to exert adequate, equalized clamping pressure over full length of the stock. All cylinders are controlled from a single station for fast repetitive alignment and clamping.

NOPAK Cylinders and Valves are used in many different types of machinery and equipment to actuate and control precision machine movements. For other examples, ask your NOPAK Representative to show you the NOPAK Application Manual.

GALLAND-HENNING NOPAK DIVISION
2755 SOUTH 31ST STREET • MILWAUKEE 46, WISCONSIN

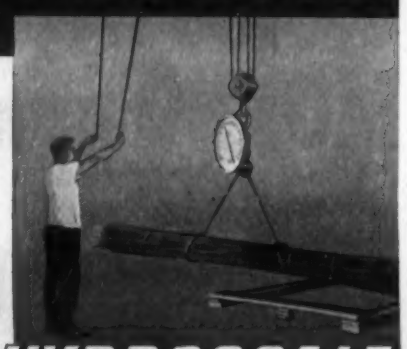
Representatives in Principal Cities

NOPAK ® VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

▲ For more details circle NED-129 K5 on enclosed inquiry slip ▲

GET WHAT YOU PAY FOR

weigh it as you receive it



WITH A ® HYDROSCALE

CHECK everything you buy by weight with a Hydroscale and you'll be *sure* you get what you pay for! A Hydroscale on your crane or hoist will pay for itself in just a few lifts. It gives you an accurate weight-check of all materials handled in your receiving operation *and* throughout your entire plant operation! There's a Hydroscale to meet your specific requirements—models from 500 to 100,000 lbs.

HYDROSCALE ®
Lifts and Weighs in One Operation

WRITE TODAY FOR ILLUSTRATED BULLETIN!

Attractive Territories Available. Write for Details.

Hydroway Scales, Inc. Department 46
20618 West Eight Mile Road Detroit 19, Michigan

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free catalog

shows how to save space, time, money

Sico B-Y table *folds safely in seconds*

A quick folding, easy rolling, space saving answer to industrial and institutional seating. Easily operated because of exclusive SICO "Floating Fold". Seats 16 adults comfortably. Requires just 8¼ sq. ft. of storage space. Permits dual use of any area. 2 tough, sanitary, mellamine plastic tops, each 6 ft. long and 30 in. wide, are mounted on heavy, 14 gauge, structural steel frame. Frame is arc-welded for strength and lustron plated for lasting protection. Vertical grain fir benches and 4 inch rubber casters.

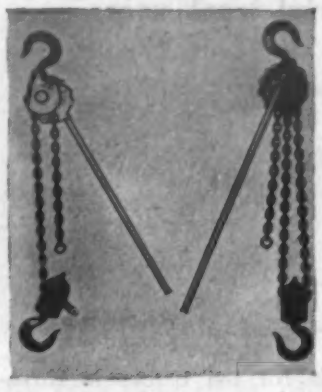
The SICO System—a new concept in seating incorporated in the design of a complete line of tables to meet all requirements. Fully described and illustrated in big FREE catalog that includes detailed table specifications.

Write today to:

SICO manufacturing company
Dept. 406, 6045 Pillsbury Ave. So.
Minneapolis 19, Minn.

▲ For more details circle NED-131 K5 on enclosed inquiry slip ▲

RATCHET LEVER HOISTS in 1½ and 3-ton capacities



Two lightweight coil chain ratchet lever hoists, models L-1½ and LD-3 with respective capacities of 1½ and 3 tons, have been added to the Coffing Super Power line. Reduction is achieved through compound levers instead of gears. Hoists are made in either malleable iron or aluminum alloy. Single-chain model L-1½ with standard lift of 56½ in. has minimum distance of 14 in. between hooks and lifts rated 1½-ton capacity with 60½-lb pull on lever. Double chain model LD-3 has 57-in. lift, 18½ in. minimum distance between hooks and needs lever pull of 62 lb to lift capacity of 3 tons. This model is easily converted to single chain operation. Made by **Duff-Norton Co.**, Coffing Hoist Div., 801 Walter St., Danville, Ill.

▲ For more details circle NED-132 K5 on enclosed inquiry slip ▲

HYDRAULIC STACKER handles loads up to 500 lb

Loads up to 500 lb can be handled by this Tubarlift Jr., a lightweight hydraulic stacker designed for lifting and transporting in plants, warehouses, machine shops, foundries and other industries. Available with either manual or electric lifts, unit has double-acting hydraulic pump with about 2-in. lift per complete cycle. Both models have a positive floor lock. Frame is welded steel, with wheels mounted inside the main-frame channels for good clearance. Lifting height is 60 in. from floor; lowered platform height is 5 in. Overall height is 72 in. Platform measures 20 x 24 in. Made by **Uhrden, Inc.**, 508 Grant St., Dennison, O.

▲ For more details circle NED-133 K5 on enclosed inquiry slip ▲

Proximity Meter Capacitance Gage

Robertshaw-Fulton Controls Co., Fielden Instrument Div.—28-page technical and application manual TM-951-1 describes the Fielden proximity meter capacitance gage. This electronic instrument which measures without touching the specimen can detect minute temperature changes, determine vibrations from 0 to 20,000 cps, measure moisture content of 300 parts in 1 million and pressures of 0.00001-in. of water.

▲ For more details circle NED-134 K5 on enclosed inquiry slip ▲

STANDARDIZED Spray Booths

DeVilbiss Standardized Spray Booths—water wash, dry type, bench or leg type in a complete range of sizes—are built of standard, fireproof, reinforced steel panels. They cost less, are easier to erect . . . easier to convert to future needs and give better service.

DeVilbiss Booths are built to the standards of the National Board of Fire Underwriters. They provide a balanced, scientific exhaust, are easy to keep clean, cost less to operate. Write for data.

DEVILBISS THE DEVILBISS COMPANY
Toledo, Ohio

Santa Clara, Calif. • Barrie, Ontario • London, England

▲ For more details circle NED-135 K5 on enclosed inquiry slip ▲

Easily-installed units for high-efficiency air movement in all duct systems. Direct-driven types for atmospheres within safe motor operating limits or belted models for hazardous fumes, vapors and excessive temperatures. Sizes 12" to 84" with 2, 4, 6, or 7 blades. Capacities to 120,000 C.F.M.

other models for every air-moving requirement

All Aerovent Fans are rated in accordance with the Standard Test Code and U.S.D.C. Comm. Std. CS178-51.

Ask for free folder D-50!

Aerovent Fan Company, Inc.
Ash and Blake Streets Piqua, Ohio

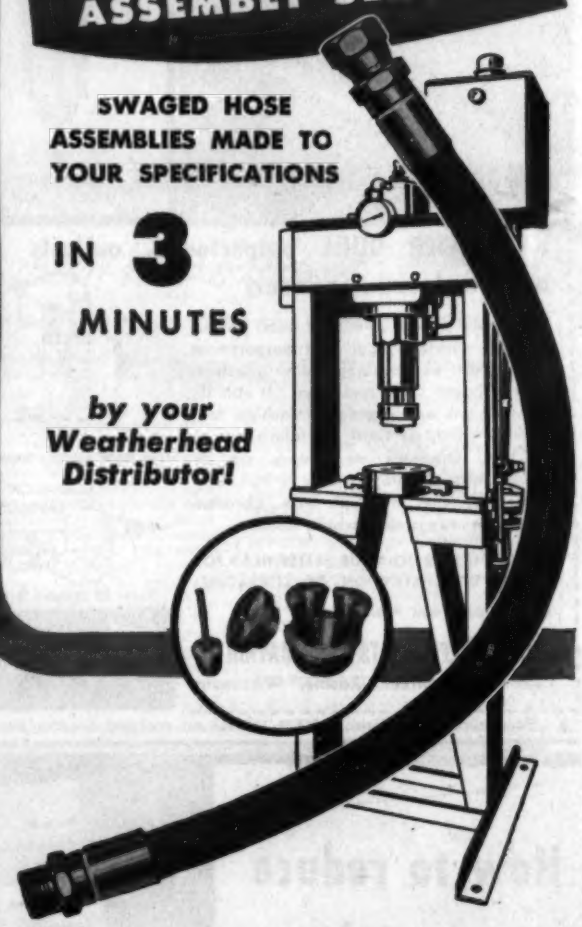
▲ For more details circle NED-136 K5 on enclosed inquiry slip ▲

"RIGHT-NOW" SWAGED HOSE ASSEMBLY SERVICE

SWAGED HOSE ASSEMBLIES MADE TO YOUR SPECIFICATIONS

IN 3 MINUTES

by your Weatherhead Distributor!



Now, for the first time, your Weatherhead distributor offers you complete swaged hose assembly service right in his own shop. No waiting for shipments of factory-finished hose assemblies. No need for costly downtime and delay. Equipped with the new Weatherhead swaging press and the complete line of Weatherhead hydraulic hose and hose ends, your distributor is prepared to supply you with any quantity, length, size, or type hose assembly at once.

Wherever you are, whatever you need, there's a Weatherhead distributor strategically located to give you immediate stand-by swaged hose assembly service.

WEATHERHEAD

WEATHERHEAD LEADS THE WAY

▲ For more details circle NED-137 K5 on enclosed inquiry slip ▲

makes the Solid Arbor obsolete

CHAMPION E-X-P-A-N-D-I-N-G MANDRELS

The expanding sleeve, mounted on tapered arbor, expands automatically to fit the hole. Inserted by hand—no arbor press needed. Always an exact, positive, concentric fit. Locked by a single mallet blow. Unlocked the same way. CHAMPION Expanding Mandrels are used in machine shops around the world. Save time, cut production costs, whether the job calls for machining one piece or a thousand.

Precision Model has expansion range of .010". Available in regular sizes to fit holes from ½" to 3" diam. Holds work to tolerances of .0002" run-out. Guaranteed for precision grinding, turning and milling operations.

Standard Model maintains close tolerances, handles material of any length bore, hard or soft metals—from thin tubes and bushings to heavy castings and forgings. A set of fourteen will fit every hole from ½" to 9½" diam.

CHAMPION *Expanding Mandrels can be made in special shapes and sizes to fit any specifications. Quotations on request. Write for descriptive folder today.*

WESTERN TOOL & MFG. CO., INC.
Our 54th Year • Dept. 36 • Springfield, Ohio

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NOW AT YOUR WEATHERHEAD DISTRIBUTOR

A Complete Line of HOSE AND HOSE ENDS FOR EVERY INDUSTRIAL NEED

TYPES OF HOSE

H-17

Two-fibre braid. Medium pressure. Sizes ¼" to 1" I.D.; working pressures 550 to 1200 p.s.i.

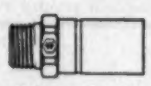
H-104

One-wire braid. Medium pressure. Sizes ¼" to 1" I.D.; working pressures 1250 to 2500 p.s.i.

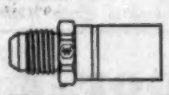
H-425

Two-wire braid. High pressure. Sizes ¼" to 2" I.D.; working pressures 1200 to 4500 p.s.i.

TYPES OF HOSE ENDS



Rigid male pipe

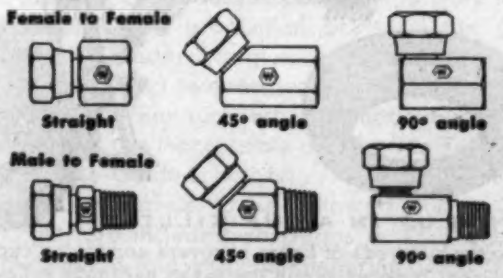


Rigid 37° SAE (JIC) male

Swivel 37° SAE (JIC) female

SWIVEL ADAPTERS

These swivel adapters permit a wide range of hose and combinations.



There's a Weatherhead field engineer ready wherever you need him to help you take full advantage of all that Weatherhead offers.

WEATHERHEAD

The Weatherhead Co.
Fort Wayne Division, Dept. P-10
128 West Washington
Fort Wayne, Indiana

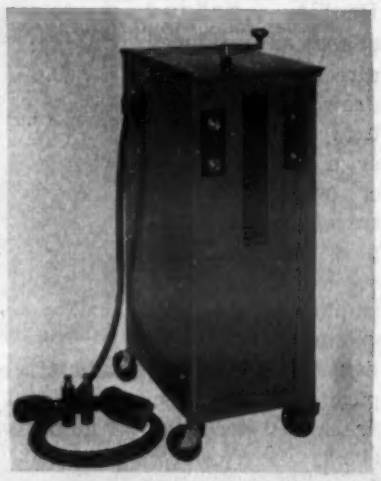
▲ For more details circle NED-137 K5 on enclosed inquiry slip ▲

HIGHLY SENSITIVE RELAY controls up to 60-amp loads

Low current devices or circuits such as an ordinary photo-cell are enough to activate this electronic mercury plunger Micrelay designed for control of high-power, high current loads up to 60 amp, or 3 hp at 115 v ac. It is also available for control of loads up to 35 amp, or 2 hp at 115 v ac, for either normally open or normally closed operation. Mercury-to-mercury action is enclosed in hermetically sealed tube, affording safe operation even in explosive atmospheres. Closure time is 35 milliseconds. Relay supplies its own operating voltages for high and low impedance applications and is suitable for control circuit impedances from 10 megohms to 100,000 ohms. Made by **Ebert Electronics Corp.**, 212-24G Jamaica Ave., Queens Village 28, N. Y.

▲ For more details circle NED-139 K5 on enclosed inquiry slip ▲

ALL-PURPOSE WELDER provides 250 amp ac, 200 amp dc



Continuous current range, full overload protection and portability are afforded by this RMC-4J single phase ac/dc welder designed for light fabrication welding. Fan-cooled unit operates from 230-v single - phase supply and provides 25 to 250 amp ac and 20 to 200 amp dc. Primary ampere rating is 47 amp for both dc and ac operation. Auxiliary equipment supplied with welder includes Cam-lok receptacles and connectors and 8 ft of primary cable with three prong plug and receptacle. Available separately are ground clamp, ground and electrode leads, welding helmet, wire scratch brush and insulated electrode holder. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

▲ For more details circle NED-140 K5 on enclosed inquiry slip ▲

Ready-to-Mail Invoices

Sperry Rand Corp., Remington Rand Div.—Fast, economical procedures for preparing accurate, ready-to-mail invoices with sales statistics and inventory control data as by-products through punched-card methods are described in 6-page folder TM-898.

▲ For more details circle NED-141 K5 on enclosed inquiry slip ▲

NORTHERN

NEW HEAVY DUTY HI-LIFT HOISTS

For severe, continuous service this new NORTHERN HI-LIFT ELECTRIC HOIST, in capacities from three to 15-tons, has double 4-wheel swiveled trucks for better distribution of load, to minimize wear on truck wheels and track, and other heavy duty features necessary to meet the hardest service requirements.

Send for Bulletin H-112

LOOK OVERHEAD — SEE NORTHERN

NORTHERN ENGINEERING WORKS
210 CHENE ST., DETROIT 7, MICH.

EH-3554

▲ For more details circle NED-142 K5 on enclosed inquiry slip ▲

5414

HOW DO YOU THREAD A PRECISION HOLE?

If your operation involves precision threading of precision holes, meet the

HAMILTON SMALL HOLE SUPER SENSITIVE PRECISION TAPPING MACHINE

Handles the smallest and finest tap to 10-32 inclusive.

Spindle idles in reverse, changes rotation instantly as pressure is applied to tap, reverses instantly as pressure is released.

Taps to the very bottom of blind holes without risk of tap breakage.

WANT COMPLETE FACTS?

Write for FREE Hamilton Bulletin No. 5414. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

▲ For more details circle NED-143 K5 on enclosed inquiry slip ▲

Wide Selection of Flexible, Reliable Glass Cloth Insulation from Irvington

Choose from a wide variety of Irvington's coated glass cloths for flexible, heat resistant, *proven* insulating materials. For Class B applications, layer and phase insulation or coil wrapping, use varnished glass cloth. Style LC combines low cost with excellent electrical performance; other types often can replace asbestos and mica. At Class H temperatures, silicone resin coatings provide good physical, chemical and electrical performance—help cut equipment size and weight. For extreme flexibility at low and high temperatures, select silicone rubber coatings; for toughness and chemical resistance, our PTFE (polytetrafluroethylene) coated cloth. Truly, there's a style and size of Irvington coated glass cloth to meet all requirements—in stock or manufactured to specifications. Send for literature and samples.

COATED PRODUCTS

IRVINGTON DIVISION
MINNESOTA MINING & MANUFACTURING COMPANY
14 Argyle Terrace • Irvington 11, New Jersey

1905-1955 Golden Anniversary Year

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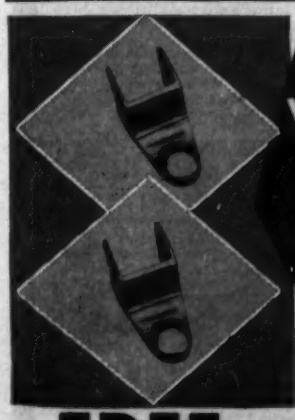


Which one cost $4,792.00 less to finish?

Look alike? Yes! — but what a difference in finishing costs. It cost a plumbing fixture manufacturer only $.0104 to finish the part below by Supersheen Speed Finishing. The part above cost $.25 to finish by former costly hand finishing methods. That's a saving of over 95% or $4,792.00 for 20,000 units. Supersheened finished parts maintained a much greater uniformity too.

WHAT IS YOUR FINISHING PROBLEM? Let us show you how Supersheen can save you a great deal of money. WRITE TODAY. Dept. N.

FREE
52 PAGE CATALOG OF MONEY-SAVING FINISHING FACTS, FIGURES, "BEFORE AND AFTER" PHOTOS. LEARN THE LATEST ON EQUIPMENT, COMPOUNDS.

ALMCO Supersheen
AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT—MATERIALS AND COMPOUNDS
ALBERT LEA, MINNESOTA

▲ For more details circle NED-145 K5 on enclosed inquiry slip ▲

New BATTERY LIFE TESTER

This new battery life tester permits you to test batteries under standardized, automatically controlled constant current conditions never before attained. Constant current specifications are maintained within an accuracy of two percent of full scale for shunt used. This high accuracy is obtained throughout testing by use of a servo-control unit that automatically adjusts the rheostat. The servo-control is designed as a separate unit that can be incorporated in your present equipment if desired. Depending on the size and type of rheostat used and on the charging current supply, batteries of various voltages may be tested individually or in series.

4814

CONTROL ENGINEERING CO.
6921 ALPINE AVENUE • DETROIT 4, MICHIGAN
Electrical Engineers and Manufacturers
Subsidiary of: JERVIS B. WEBB CO.

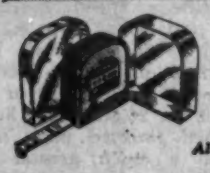
▲ For more details circle NED-146 K5 on enclosed inquiry slip ▲

TO PURCHASING AGENTS ONLY!

Attention Purchasing Agents:
We make this startling offer to introduce your company to Evans' superior King-Size and Pocket White-Tapes, the finest measuring tapes manufactured.
Simply fill in the coupon below and we'll send you, absolutely free and without any obligation, your choice of either our King-Size 10-ft. ($2.39 retail) or Pocket 12-ft. White-Tape ($1.89 retail)! (Offer limited to one tape per purchasing agent.)
We feel that once you try Evans Tapes, you'll never buy another brand. Here's why:

EVANS KING-SIZE
10-ft. ¾" Wide Steel Tape Stands Up Straight for Easy One-Man Measurements.
The 33% wider blade (full ¾") stays straight up—will not bend when making measurements. Chrome plated zinc die-cast case. Free belt clip for handy carrying and Free Tenite Utility Case. Self-adjusting sliding hook for accurate inside-outside measuring.
Also available in 6, 8, 12-ft. lengths.

All EVANS Tapes are marked so your men don't have to figure!



EVANS 12-ft. Pocket WHITE-TAPE
Measures a full 12 feet—eliminates adding two measurements as with shorter tapes. Regular ½" wide blade. Chrome plated zinc die-cast case. Self-adjusting sliding hook for 100% accurate inside or outside measurements. Free transparent Tenite Utility Case.
Also available in 6, 8, and 10-ft. lengths.
1874

Evans RULE CO., Department 121
400 Trumbull Street, Elizabeth, N. J.

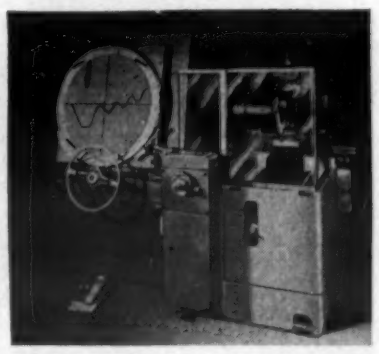
Please send me free sample of (check one)
☐ King-Size 10-ft. Steel Tape ☐ Pocket 12-ft. White-Tape
My two sources of supply for steel tapes are:
1_____
2_____
Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State_____

SOLENOID HYDRAULIC VALVE
designed for full 3000-psi service

Sizes of ½, ¾, 1, 1¼ and 1½ in. are available in model 6615 single-solenoid pilot-operated hydraulic valve designed for 3000-psi service. Valve is sub-plate type for panel mounting, meets all JIC requirements and has rated capacity of 3.6 gpm at 15 fps. Solenoid operates on 3.6 amp inrush and 0.45 amp holding at 115 v. It has spring return and operates two-position on the four-way valve. Solenoid is used with the spool of the valve having all ports blocked in neutral. Made by **Rivett Lathe & Grinder, Inc.**, Dept. NEP-2, Brighton 35, Boston, Mass.

▲ For more details circle NED-147 K5 on enclosed inquiry slip ▲

OPTICAL CONTOUR GRINDER
with hydraulic tracer control and 30-in. screen comparator



Profile - ground shapes are produced directly from a line drawing by this optical contour grinder, a surface grinder with hydraulic tracer control, coupled with a 30-in. screen comparator. Duplicate finished ground profiles can be produced by automatic tracer control. The comparator is arranged for visual and manual control of the 10 to 14-in. grinding wheel from a contour chart.

Projected image of the cutting wheel is made to follow the outline chart of the desired work piece mounted on the screen. Grinding wheel can also be template controlled by master stylus and hydraulic tracer. Optical comparator has three lens systems: 5X with 6-in. diameter field, 10X with 3-in. field and 20X with 1½-in. diameter field.

Grinder work table oscillates from front to back, with its length and rate of travel being adjustable. Horizontal table surface can be raised or lowered. Grinding wheel carriage movement provides lateral wheel feed across the table. Coolant may be used as the comparator projection system is fully protected and removed from the grinding area. Maximum grinding stroke is 6 in. and maximum length of work is 12 in. Made by **Jones & Lamson Machine Co.**, 528 Clinton St., Springfield, Vt.

▲ For more details circle NED-148 K5 on enclosed inquiry slip ▲

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling—Saves Die Costs Saves on Expensive Presses

This efficient machine is useful in all lines of trade, spring plants, radio and electrical equipment manufacturers. Complete with tooling, for bending material up to ⅛" x 1½".

No. 5 HAND OPERATED MODEL

AIR OPERATED MODELS AVAILABLE IN THIS AND LARGER SIZES

FIVE-IN-ONE-TOOL—ALSO LARGER MODELS
IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. MYRTLE & PITCHER STS. KALAMAZOO, MICHIGAN

▲ For more details circle NED-149 K5 on enclosed inquiry slip ▲

LOOKING FOR QUALITY BRONZE GLOBE VALVES ?

You can find just the globe valve you need in the O-B lineup which covers working steam pressures of 100, 125, 150 and 200 pounds. At the 100-pound level, you have the choice of a brass disc valve or a renewable disc valve. O-B Globes can be used on water, oil, air, gas and steam services. Write for Bulletin 1322-V.

Ohio Brass makes a complete line of bronze valves for industrial use. Write today for additional information.

4578-V

O-B VALVES Ohio Brass MANSFIELD OHIO, U.S.A.

▲ For more details circle NED-150 K5 on enclosed inquiry slip ▲

BRING YOUR "SPECIAL" PROBLEMS TO *National*

Cold heading "Specials" can lower fastener costs!

When you have any "Special" fastening problem . . . requiring an unusual type of bolt, nut, screw, pin or headed or threaded part . . . our engineers can help you design it . . . and we can produce it economically on our wider range of cold heading equipment and specialized machinery.

For prompt assistance in solving your "Special" problems, just send us your specifications or call in your nearest National representative for full information on National's "Special Products Service" and the most complete line of standard fasteners for industry.

★ ★ ★

Representatives in Chicago, Cincinnati, Detroit, New York, Philadelphia, Kansas City, Milwaukee, Rochester, Denver, St. Louis, San Francisco, or Seattle—write or call direct to:

THE NATIONAL SCREW & MFG. CO.
2440 East 75th St., Cleveland 4, Ohio

▲ For more details circle NED-151 K5 on enclosed inquiry slip ▲

---

conpor-
for a hot, fast cycle

STANDS UP IN A CUP KILLER

Even after hundreds of hours of severe service no cup replacement is necessary in the seven hydraulic cylinders on this backhoe. The reasons: Sirvis-Conpor cups have high strength and resiliency, do not score or chatter, and completely seal most oils, solvents and gases. For long cup "mileage" at low cost, look into C/R Sirvis-Conpor packings. Write for "Report on Conpor," Chicago Rawhide Mfg. Co., 900 N. State St., Elgin, Illinois.

CHICAGO *Rawhide* MFG. CO.
1301 Elston Ave., Chicago 22, Ill.
In Canada: Super Oil Seal Mfg. Co., Ltd., Hamilton, Ontario
Export Sales: Geon International Corp., Great Neck, New York

▲ For more details circle NED-152 K5 on enclosed inquiry slip ▲

DUSTKOP STOPS DUST

DUST COLLECTOR

SAVES INSTALLATION TIME

Stop dust quickly, at lower cost, with Dustkop. Thirty-seven standard models *ready to use* and available from stock. Dustkop conserves floor space, reduces maintenance. Collects almost all types of industrial dusts. Write for descriptive literature.

Also a complete line of Mist Collectors

AGET MANUFACTURING COMPANY
1396 East Church St. • Adrian, Michigan

▲ For more details circle NED-153 K5 on enclosed inquiry slip ▲

Figure 4

24 page engineering data... *Section*

Figure 4 illustrates the mechanics involved in one method of determining experimentally the optimum tightening torque to be specified for a particular application of highly stressed bolts and nuts . . . Whenever possible this work should be done with production parts on the actual assembly, under actual assembly conditions, such as lubrication, temperature, etc., or with a test block . . . When such tests are impossible because bolt ends are inaccessible or for any other reason, a Torque Guide is helpful . . . All factors involved in the procedure to be followed and a Guide Chart, are included on pages 6, 7, 8 and 9 in the twenty-four page Engineering Data Section of our catalog . . . Requests for this literature will be handled promptly.

NATIONAL MACHINE PRODUCTS COMPANY

Manufacturer of Standard and Special "12 Pointer and Hexagon Nuts..."Huglock" and "Marsden" locknuts,

44231 Utica Rd., UTICA, Michigan

▲ For more details circle NED-154 K5 on enclosed inquiry slip ▲

REVERSING CLUTCH UNIT
rated 3 hp at 200 rpm

Mechanical reversing of any one directional motion at full speed is possible with this 65-lb reversing clutch unit rated 3 hp at 200 rpm. Control can have 1:1 ratio in both forward and reverse, or 2:1 ratio reversing at higher or lower speed than original. Lever positions are forward, neutral and reverse. Unit is enclosed in oil-tight, dust-free housing. A 1⅛-in. keyed shaft at input and output side allows quick application of unit. Made by **Atlas Industrial Corp.**, 845-ND 39th St., Brooklyn 32, N. Y.

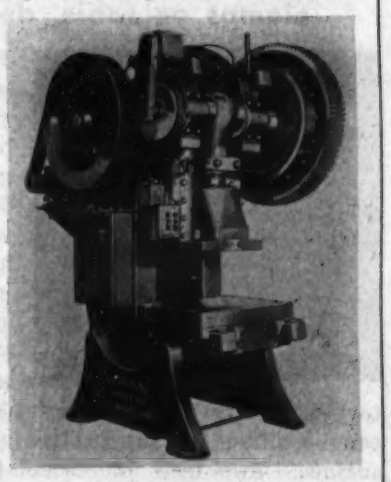
▲ For more details circle NED-155 K5 on enclosed inquiry slip ▲

MACHINE TOOL GUARDS
made of economical stampings

Many different types and sizes of machine tool guards can be economically fabricated by a short-run process of steel stamping using temporary tooling. Guards have been produced for surface grinders, tool and cutter grinders and milling machines. Strong, lightweight guards are blanked and drawn to desired size and shape, with a minimum of subsequent finishing operations required. Made by **Dayton Rogers Mfg. Co.**, 2822 Thirteenth Ave. S., Minneapolis 7, Minn.

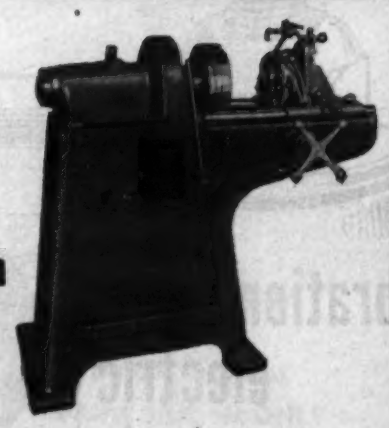
▲ For more details circle NED-156 K5 on enclosed inquiry slip ▲

AIR CLUTCH PRESS
100-ton unit is precisely controlled



Added to the Federal line of air clutch presses is this 100-ton unit for precision operation at high speeds. Press has air-actuated clutch and is electro-pneumatically controlled. Twin solenoid valves provide maximum safety. System of lights on control panel signals that press is in safe operating condition. Press can be single-tripped with either hand or foot control, "inched" or operated continuously. Made by **Federal Press Co.**, 506 Division St., Elkhart, Ind.

▲ For more details circle NED-157 K5 on enclosed inquiry slip ▲



For Precision Maintenance Threading

The LITTLE LANDIS Pipe Threading Machine will cut pipe threads fr[illegible] ¼" to 2", and is equipped for cutting off, chamfering, and reaming. It is designed for rapid set-up; e.g., size adjustment is the only change required to thread all pipe diameters from 1" to 2". It may also be used to thread bolts from ¼" to 1½". The LANDIS Tangential Chasers used give long life between chaser grinds and produce accurate threads of excellent finish.

For additional information on the LITTLE LANDIS Pipe Threading and Cutting Machine, ask for Bulletin C-82.

LANDIS *Machine* COMPANY
WAUKESHA · PENNSYLVANIA · U.S.A.

▲ For more details circle NED-158 K5 on enclosed inquiry slip ▲

5418

PRECISION GEARS ON RELENTLESS PRODUCTION SCHEDULES

The feature of *independent* selection of speed, feed and indexing, which speeds machine set-up and provides a means for matching cutting speed and work feed to the material being machined, together with a "reserve of accuracy" built into the machine, has placed the Hamilton Precision Small Gear Hobber high in perference in the precision instrument field.

GET THE FACTS!
WRITE FOR FREE BULLETIN 5418
ADDRESS: THE HAMILTON TOOL COMPANY
901 HANOVER STREET, HAMILTON, OHIO

IT'S A *Hamilton Tool*
USE IT WITH CONFIDENCE

▲ For more details circle NED-159 K5 on enclosed inquiry slip ▲

Lubrication difficulties?
Johnson Ledaloyl Bearings
hold oil like a sponge!

Over 400 Sizes—3 Basic Types—Available From Stock

Here's why: Produced by Johnson's precision powder metallurgy process Ledaloyl bearings are self-lubricating because their porous structure holds up to 35% of lubricating oil by volume. When the bearing is in use, oil is metered to the shaft—when at rest, the oil is absorbed by the pores.

Johnson Ledaloyl bearings in 400 standard sizes, in three different types are widely used for small motors, fans, in self-aligning applications and in many types of equipment where heavy duty is not encountered and lubrication is difficult and likely to be neglected.

For complete details ask your Johnson distributor or write for catalog to Johnson Bronze Co., 580 S. Mill St., New Castle, Pa.

Johnson Bearings

▲ For more details circle NED-160 K5 on enclosed inquiry slip ▲

Now! DO ALL THESE

Angle pocket milling
Angle shaping
Angle grinding
Angle drilling
Angle milling
Angle checking

on standard machines with a Wesson Precision Angle Vise

2 models immediately available
4" maximum jaw opening, 4" jaw width
1⅜" maximum jaw opening, 3" jaw width

Ask for illustrated bulletin describing Wesson Universal Vises and Angle Plates.

Wesson Products Company
1220 Woodward Heights Blvd. • Detroit 20, Michigan

▲ For more details circle NED-161 K5 on enclosed inquiry slip ▲

ACUSHNET SPECIALIZES IN PRECISION RUBBER MOLDING

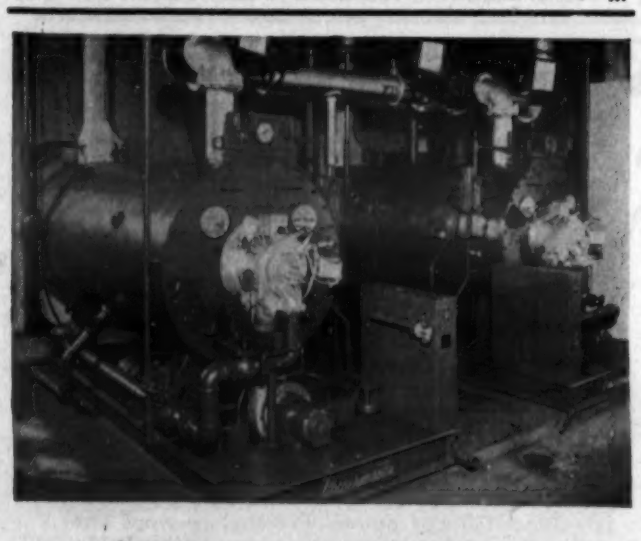
Complex or conventional in design, your rubber part can be *precision-molded* by Acushnet with properties to meet the most exacting specifications. Our entire facilities and specialized engineering skills are concentrated on the development and production of precision-molded rubber parts – to order.

Acushnet PROCESS CO.

Send for your copy of the Acushnet "Rubber Data Handbook" a comprehensive source of information widely used in industry as an authoritative reference for molded rubber parts.

Address correspondence to 782 Belleville Ave., New Bedford, Mass.

▲ For more details circle NED-164 K5 on enclosed inquiry slip ▲

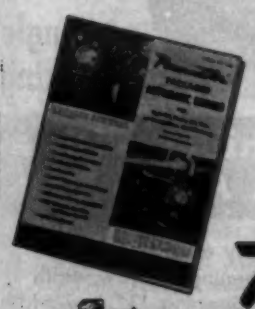


Why *Powermaster*® Users Come Back for More

● The success of *Powermaster* Packaged Automatic Boilers in heating the unusually-proportioned buildings of this Mid-West lawn and garden equipment manufacturer led to repeat purchases of *Powermasters* in recent years. The plant consists of a number of three and four-story buildings. The company now has one 100 HP, one 60 HP, one 30 HP and two 50 HP *Powermasters* purchased over a period of six years.

You get *MORE* than trouble-free plant heating with *Powermaster:*

- ★ Low-cost, space-saving installation
- ★ Fast steaming
- ★ Instant response to load changes
- ★ Quick fuel change-overs
- ★ Clean, dry steam
- ★ Automatic operating and safety controls
- ★ High fuel economy at all loads
- ★ Clean, quiet operation
- ★ Smokeless combustion
- ★ One-source responsibility for complete unit
- ★ Nation-wide factory-trained service organization
- ★ Pay-As-You-SAVE Purchase Plan



SEND TODAY *for Bulletin 1220. It gives you all the cost-saving facts on* Powermaster.

Powermaster®
PACKAGED AUTOMATIC BOILERS
In sizes to 500 HP; pressures to 250 psi.

ORR & SEMBOWER, INC.
Established 1885 • Morgantown Road, Reading, Pa.

▲ For more details circle NED-165 K5 on enclosed inquiry slip ▲

MOISTURE SEPARATORS for compressed air equipment

Compressed air equipment operating between 10 and 250 psi can be protected from free oil, water and nongaseous contaminants by series 125 moisture discharging separators. These piston operated units do not increase air requirements and will not flutter. Separation and discharge action is fully automatic. Four models for ¼ to ½-in. lines have 12 to 45 cfm efficiencies. Made by **Wilkerson Corp.**, 3435 S. Platte River Dr., Englewood, Colo.

▲ For more details circle NED-166 K5 on enclosed inquiry slip ▲

MOTOR OVERHEAT POTECTOR mounts directly in motor windings

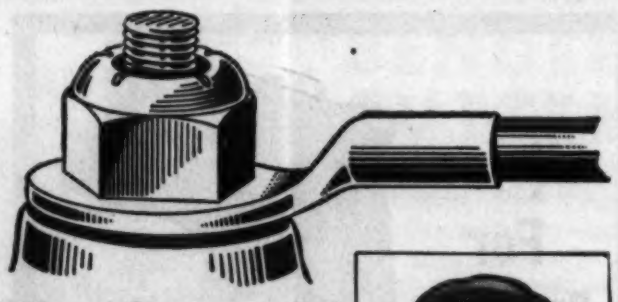
Intended for shaded-pole and permanent split-capacitor fan motors, miniature tubular-shaped type B9500 overheat protector can be mounted directly in motor windings or small transformer enclosures. Spencer disk-type thermal element assures positive snap-action make and break. Snap element and contacts are enclosed in molded phenolic case. Sealed unit withstands varnish dipping and baking. It is rated 300 v, maximum; 10 amp, maximum, at 115 v ac. Made by **Metals & Controls Corp.**, Spencer Thermostat Div., 1500 Forest St., Attleboro, Mass.

▲ For more details circle NED-167 K5 on enclosed inquiry slip ▲

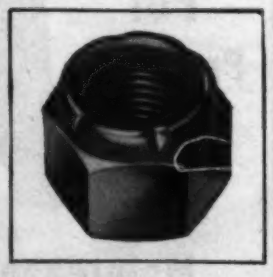
FLUORESCENT ILLUMINATOR clamps on table, desk or bench

Fleximatic arm permits the Oculite fluorescent illuminator to be raised, lowered, angled, or turned in a 360 - degree sweep within a 45-in. radius in all directions. Lighting head stays level at all times. The clamp-on unit can be used by artists, draftsmen, factory and office workers on table, desk or bench. It can be affixed to any horizontal, vertical or sloping surface. Two 15-w fluorescent tubes are used in the unit, head of which raises or lowers 70 in. Made by **Burton Mfg. Co.**, 2520 Colorado Blvd., Santa Monica, Calif.

▲ For more details circle NED-168 K5 on enclosed inquiry slip ▲



Vibration-proof electric terminals



Self-locking brass Elastic Stop® nuts provide positive protection against the loosening effects of vibration. The red elastic locking collar provides a constant grip on terminal studs . . . prevents ignition or power supply failures. Because Elastic Stop nuts remain tight in any position on the stud—whether firmly seated or not—they are easily adjusted. One-piece fasteners, readily removed and re-used.

Write ESNA® for the most practical answer to your fastener problem. Address Dept. N57-1037.

ESNA
ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

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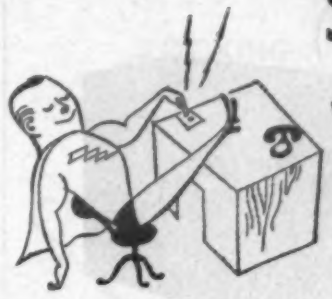
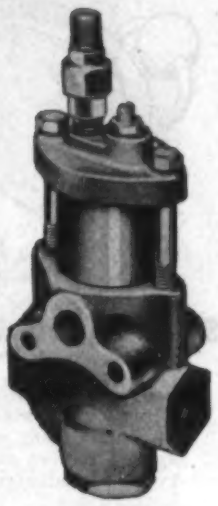


Save Steps with Schrader® REMOTE CONTROL PILOT VALVES



Installed in the main air supply line at the desired point of operation, Schrader Pilot Valves will deliver full line flow to a cylinder or other pneumatic device, or to the atmosphere. Charging of the pilot cylinder is done with a relatively small actuating valve, thus reducing air consumption and actuating force required. This means one basic pilot valve provides a wide choice of actuation methods; either hand, foot, machine or electricity.

Schrader Pilot Valves are available in two- and three-way types. They can be supplied with timers which deliver air in blasts of a fraction of a second duration, or in prolonged flow.

Write for more information.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated

459 Vanderbilt Avenue, Dept. K-10, Brooklyn 38, N. Y.

▲ For more details circle NED-170 K5 on enclosed inquiry slip ▲

▲ For more details circle NED-171 K5 on enclosed inquiry slip ▲

HYDRECO Series H Hydraulic Pumps for operation of 1500 psi systems deliver 40, 50, 60 or 70 gpm at 1200 rpm.

HYDRECO Hydraulic Pumps are engineered to survive in applications where other, ordinary pumps fail. HYDRECO Pumps are found *operating* wherever the going is rough . . . whenever shock loads, impact and rugged service are "normal working conditions." No other Gear-Type Pump offers these advantages . . . HYDRECO's exclusive *Pressure-Balanced, Four-Bolt Design* and *Hevi-Duty Construction* . . . low initial cost, years of economical, trouble-free operation and dependable, efficient performance.

Your Free copy of Bulletin No. 142 covers the details of HYDRECO Series H Pumps . . . Write for it!

HYDRECO DIVISION
THE NEW YORK AIR BRAKE COMPANY
1108 EAST 222nd STREET • CLEVELAND 17 • OHIO
INTERNATIONAL SALES OFFICE, 90 WEST ST., NEW YORK 6, N. Y.

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Precision

built throughout for ease and speed in operation. Fully portable. Will make TENSILE, COMPRESSION, TRANSVERSE and SHEAR tests. Motorized or hand operated. Calibrated with Morehouse Proving Ring for accuracy. Maximum hand, self-aligning jaws, ball bearing throughout. Tests any type material, rounds, flats, special shapes.

Immediate delivery! Capacities from 0-250 lbs. up to 0-10,000 lbs. America's most popular low priced tester! Hundreds in use by leading plants.

Dillon TENSILE TESTER

WRITE FOR PROFUSELY ILLUSTRATED BULLETIN

W. C. DILLON & CO., Inc. 14620NE Keswick St. Van Nuys, Cal. (sub of Los Angeles)

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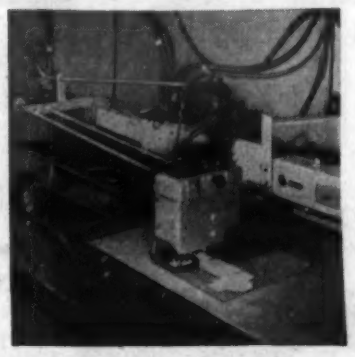
SIMPLIFY Your Shape-Cutting Jobs with the...

OXWELD Automatic Tracer

Trade-Mark



- Positive templet contact... electronic steering control ...maximum tracing accuracy
- Templets are easy to make, low-cost
- No kerf allowance required in templet
- Dynamic braking prevents overruns
- Local or remote controls ...simple to operate

With an OXWELD Automatic Tracer to guide your oxygen-cutting machine, you need never forego the advantages of templet tracing because of time or cost. Just cut actual size templets out of thin plastic sheet with scissors—that's all! Tracer follows practically any templet shape within extremely close tolerances. Drive action is smooth and steady with both single- and multiple-blowpipe setups. Write today for free booklet F-8086.

LINDE AIR PRODUCTS COMPANY

A Division of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York 17, N. Y.

Offices in Other Principal Cities

In Canada: UNION CARBIDE CANADA, LIMITED, Toronto

The term "Oxweld" is a registered trade-mark of Union Carbide and Carbon Corporation

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New! *haskins* hask*AIR* GRINDER

75,000 R.P.M. (1/5 H.P. prony brake test)

most powerful air turbine grinder in its class!

- Permanently sealed bearings . . . never needs lubrication in air lines or grinder.
- Removable nose piece for deep grinding.
- Gyro action of turbine holds tool steady.

Here's power—SUSTAINED POWER—like you've never experienced before in an air grinder . . . power unexceeded by any other air grinder in the same price range . . . maintains its high-speed efficiency under load! Built with a lightweight, contoured, hand-fitting aluminum housing, the Haskins hask*AIR* Grinder handles easily, balances perfectly . . . excellent for the most precise grinding job. Complete kit includes: carrying case, adapter hose, mounted points, dressing stone and wrenches.

WRITE TODAY FOR BROCHURE

haskins

603 S. Washtenaw Chicago 12, Ill.

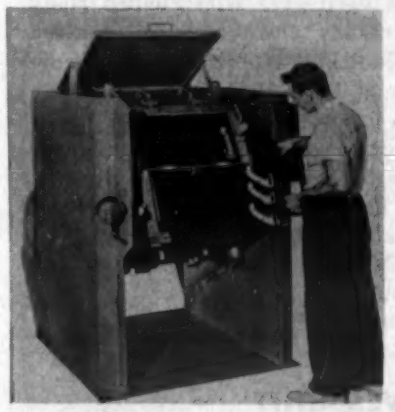
▲ For more details circle NED-175 K5 on enclosed inquiry slip ▲

CHAIN SAWS
one-man pneumatic model

Cutting of timbers in cramped spaces is facilitated with the model 2P18 pneumatic chain saw, equipped with a 3/8-in. chain and available with 18 to 30-in. cutting bars. Plunge cutting technique cuts through timbers without clearance. Operator plunges round nose of bar into the timber, then works it up and down to cut through. Rotary air motor requires 46 cfm at 90 psi for maximum efficiency. Automatic motor oiler and trigger throttle are features. Made by **Mall Tool Co., 7725 S. Chicago Ave., Chicago 19, Ill.**

▲ For more details circle NED-176 K5 on enclosed inquiry slip ▲

FINISHING MACHINE
eight-door model designed for coloring of aluminum castings



Designed primarily for coloring of aluminum castings, this eight-door stationary fixture finishing machine has a door on each flat of a single compartment cylinder. Fixture pads are attached to octagon side walls of the compartment just inside door opening. Fixtures are in the form of grids which fit attached pads. They are held in position during processing by pads and by pressure of closed door pushing them firmly into the contoured pads.

Fixtured parts are held by the grids to effectively expose them to processing media. Compartments vary in size up to 48 in. long and 42 in. diameter. A 7½-hp drive equipped with automatic reversing electric controls is standard. Machine gives a bright lustrous finish to aluminum tool housings and other castings. Made by **Roto-Finish Co., 3702 Milham Rd., Kalamazoo, Mich.**

▲ For more details circle NED-177 K5 on enclosed inquiry slip ▲

Properties & Applications of Polyethylene

Koppers Co., Chemical Div.—A new type of polyethylene which has high heat resistance, structural stiffness and good appearance is subject of 16-page booklet "Super Dylan Polyethylene." Properties of this thermoplastic material are detailed and suggested applications are outlined.

▲ For more details circle NED-178 K5 on enclosed inquiry slip ▲

TYGON *Hot Spray* PAINT

BUILDS A 5 MIL PAINT FILM IN ONLY 2 COATS

CUTS PAINT COSTS UP TO 30%

Thickness and film density is what counts in a paint film. And in TYGON "ATD" Hot Spray Paint you get both—plus *real adhesion.* And, of course, you get all the corrosion-resistance for which Tygon Paint is famous.

Write for all the details today!

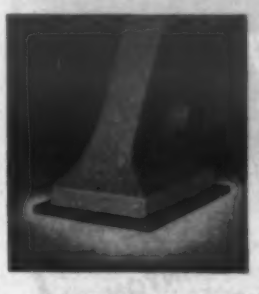
PLASTICS AND SYNTHETICS DIVISION

U. S. STONEWARE

Since 1865 • Akron 9, Ohio

▲ For more details circle NED-179 K5 on enclosed inquiry slip ▲

TAKE THE SHOCK OUT OF PUNCH PRESSES

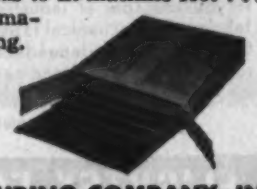


... with low-cost ISOMODE® PADS

Made of long-lasting Du Pont neoprene, these ribbed, resilient pads have proved successful in isolating troublesome machine shock and vibration in thousands of plants . . . even on punch presses.

This low-cost method of shock and vibration control helps reduce building damage and machine maintenance — muffles annoying plant noise.

Best of all — it costs very little to install Isomode Pads. Simply cut the economical pads to fit machine feet . . . that's it! No waste, no fuss — machines stay put without bolting. Try a package and see. Write for prices and Application Bulletin No. 415.



THE MB MANUFACTURING COMPANY, INC.

1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-180 K5 on enclosed inquiry slip ▲

Magliner Dock Boards *REFUSE* to damage power truck tires

Magliner Tire-Saver Safety Curbs (shown in circle below) prevent equipment run-off, eliminate costly tire damage and prolong dock board service life!

Ordinary dock boards permit the rims of power truck wheels to bear against the side curb. These repeated contacts cause sharp, jagged edges in the curb itself. Magliner Tire-Saver Safety Curbs prevent this costly and dangerous condition. They are designed so that wheel rims cannot come into contact with the side curb and cause damage. As a result, expensive tire replacements are kept to a minimum and curbs last longer!

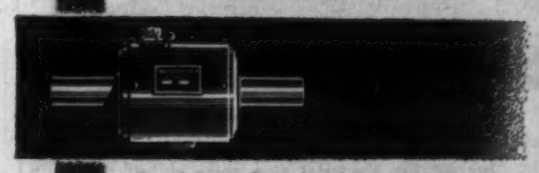
This exclusive advantage is one of the big reasons Magliner magnesium dock boards save you money both in initial cost, and in the long run. Let us show you how Mag-liners will speed traffic, reduce costs and insure greater safety in your operation.

WRITE TODAY For Bulletin DB-2041

MAGLINE INC. • P.O. BOX 510 • PINCONNING, MICHIGAN

▲ For more details circle NED-181 K5 on enclosed inquiry slip ▲

Ultra-sensitive SR-4® Torquemeter speeds design of more efficient engine air cooling systems



Dean & Benson Research engineers get highly accurate measurement of minute power changes with a Baldwin SR-4 Torquemeter . . . a big assist in designing more efficient engine air cooling systems. Why not investigate the many ways you can use SR-4 devices for fast, accurate, economical measurement of torque, load or fluid pressure? Send today for our latest bulletins! Address Department 3429, Baldwin-Lima-Hamilton Corp., Philadelphia 42, Pa.

BALDWIN-LIMA-HAMILTON

Philadelphia 42, Pa. • Offices in Principal Cities

In Canada: Peacock Bros., Ltd., Montreal, Quebec

▲ For more details circle NED-182 K5 on enclosed inquiry slip ▲

FABRICS & TAPES
For
ALL INDUSTRY

• COTTON
• VINYON
• RAYON
• NYLON
• GLASS

FLIGHTEX
FLIGHTEX FABRIC
FABRICS

If you use special industrial fabrics and mechanical tapes, you'll find Flightex a dependable source of supply. Our staff of engineers is at your service to help solve your fabric and tape problems.

Write for Complete Information

FLIGHTEX FABRICS, Inc.
91 Worth Street New York 13, N. Y.

▲ For more details circle NED-183 K5 on enclosed inquiry slip ▲

ARMSTRONG
Carbide
TOOL HOLDERS

FOR HIGHER SPEEDS, AND HEAVIER FEEDS

ARMSTRONG Carbide Tool Holders and ARMIDE (Carbide Tipped Cutters) come in cased sets for tool rooms and maintenance departments, and individually in all sizes for general machine shop and production turning. They permit not only the ready machining of sand-filled castings, the hardest and toughest steels as well as many heretofore "unmachinable" materials, but also make practical much heavier cuts and cutting speeds up to 600 f.p.m. on ordinary work. They also run from 10 to 100 times as long between regrindings.

WRITE FOR CATALOG
ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVENUE, CHICAGO 30, U.S.A.
NEW YORK • SAN FRANCISCO

▲ For more details circle NED-184 K5 on enclosed inquiry slip ▲

HOW TO GET THE *most* OUT OF
EASY-FLO BRAZED CONSTRUCTION

EASY-FLO 45 WIRE RING

Photos and data courtesy of the PYLE-NATIONAL CO. Chicago, Ill.

The picture tells how, better than a thousand words. It shows the turntable mechanism used for brazing the electrical plug parts at left. Shell stampings and threaded spuds, each with an EASY-FLO 45 wire ring preplaced, are assembled on holders on table and brazed as they pass thru induction heating coil at rear. Gearing revolves assemblies for even heating. Production is 250 per hour. Most any shop can design and build such a mechanism at reasonable cost.

GET the whole story about fast, low-cost EASY-FLO brazed construction in BULLETIN 20. Write for a copy today.

HANDY & HARMAN 82 Fulton St. New York 38, N. Y.
Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

▲ For more details circle NED-185 K5 on enclosed inquiry slip ▲

STRAPPING MACHINE is powered entirely by air

Model AP air-actuated strapping machine automatically tensions, seals and cuts steel strapping in two easy motions. Particularly adaptable for skid and pallet loads, machine affords uniform predetermined tension which can be adjusted up to 1600 lb. It applies ⅝ or ¾-in. steel strapping. Of aluminum construction, lightweight machine has easy-loading 75-seal capacity magazine. Made by **Signode Steel Strapping Co.**, Dept. 9P, 2600 N. Western Ave., Chicago 47, Ill.

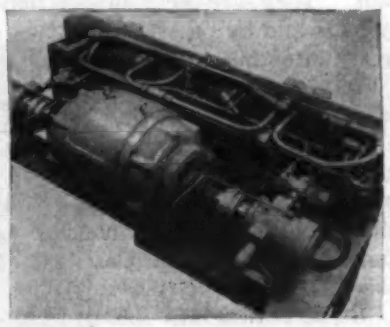
▲ For more details circle NED-186 K5 on enclosed inquiry slip ▲

CHEMICAL-RESISTANT PRIMER drys in 10 minutes at 85° F

Drying time of 10 minutes at 85° F for Rustbond Primer No. 6 permits fast scheduling of painting crews. Primer can be used over wirebrushed rusty steel, sand-blasted steel and clean cold rolled steel. It applies at dry film thickness of 2 mils with coverage of 230 sq ft per gallon. Primer is compatible with and will improve topcoat performance of maintenance vinyls, phenolics, alkyds, chlorinated rubbers, one-package neoprenes, oil-base paints and furans. Coating is tough and flexible, will not peel or flake and shows good resistance to alkalies, acids and solvents. Made by **Carboline Co.**, Dept. CF, 331 Thornton Ave., St. Louis 19, Mo.

▲ For more details circle NED-187 K5 on enclosed inquiry slip ▲

HYDRAULIC POWER UNIT will supply a press at 3000 psi

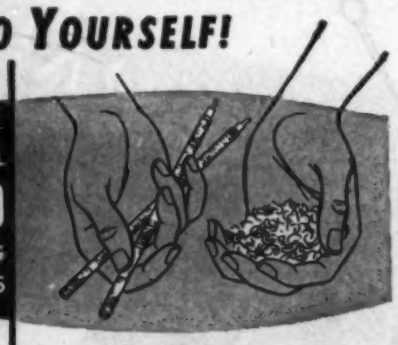


A 350-gal reservoir with panel on which are mounted component parts comprise this power unit capable of supplying a hydraulic press at 3000 psi. Components include a 100-hp double-end motor which drives two 32-hp and one 7-hp pump. Outlets are manifolded to ends for easy connection to the cylinders. Adjustable V-belt drive on small pump, as well as motor and pumps are suspended on separate plates to prevent misalignment due to temperature changes. Parker fittings and tubing are used throughout. A separate control panel is provided for controlling speed and pressure from operator station. Made by **J. N. Fauver Co.**, 47 W. Hancock Ave., Detroit 1, Mich.

▲ For more details circle NED-188 K5 on enclosed inquiry slip ▲

PROVE TO YOURSELF!

INDUSTRIAL
STACKED
RETAINING
RINGS



Speed Production
Cut Costs

We GUARANTEE *faster* and *easier* assembly of open-type retaining rings . . . and less ring loss . . . with Industrial STACKED Retaining Rings. No more fumbling with tangled unstacked rings.

Try without risk. Full refund if Industrial's one-at-a-time modern dispensing does not reduce production costs. Industrial's specially designed base and tool are free with initial order. *Send today for new illustrated literature.*

Originators of Modern Dispensing

INDUSTRIAL
RETAINING RING CO.
8 WEST SIDNEY AVENUE
MOUNT VERNON 4, NEW YORK

▲ For more details circle NED-189 K5 on enclosed inquiry slip ▲

When You Cut Pipe...

2" Pipe Size
Standard Weight

You Can Do It In
8 SECONDS

and . . .

The Cut Will
Look Like This . . .

Naturally you can cut smaller sizes.

WALLACE SUPPLIES MFG. CO.
1306 WOLFRAM STREET—CHICAGO 13, ILLINOIS

When You Cut Tees...

2" x 2" x ¼"

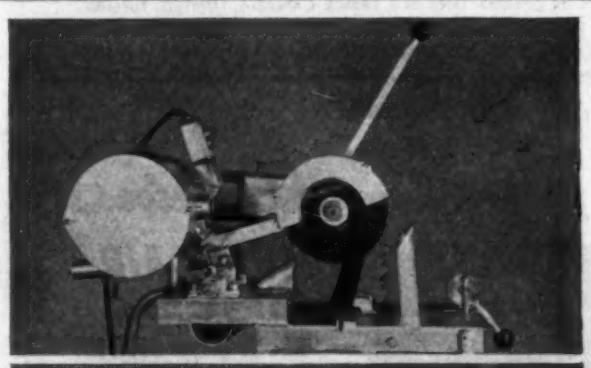
Cut in
5 SECONDS

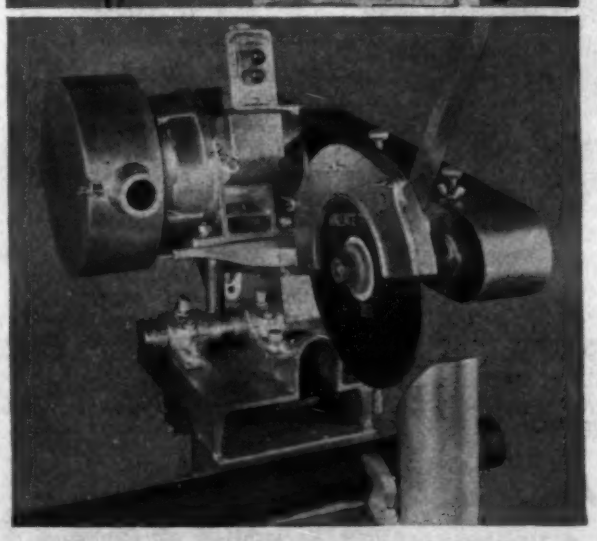
It Deburrs ...

WITH THIS MACHINE you can make square, clean cuts with the lightest of burrs.

Welded steel tubing
1.900 O.D. x .065 wall

Cut in only **3 SECONDS**



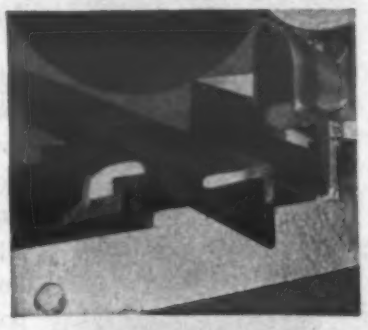


WALLACE SUPPLIES MFG. CO.
1306 WOLFRAM STREET—CHICAGO 13, ILLINOIS

▲ For more details circle NED-190 K5 on enclosed inquiry slip ▲

or Maybe Cut Angles...

Here's How You Clamp 2" x 2" x ¼"



and . . .

Here's the Result . . .

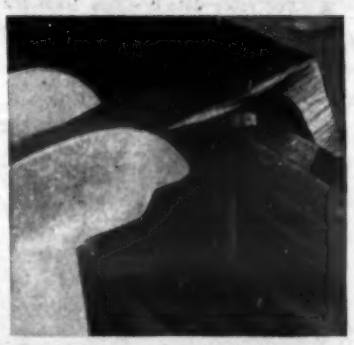
Cutting Time Only
5 SECONDS

WALLACE SUPPLIES MFG. CO.
1306 WOLFRAM STREET—CHICAGO 13, ILLINOIS

or Maybe Cut Channels

3" x 1½" x 3/16"

Cutting Time
6 SECONDS

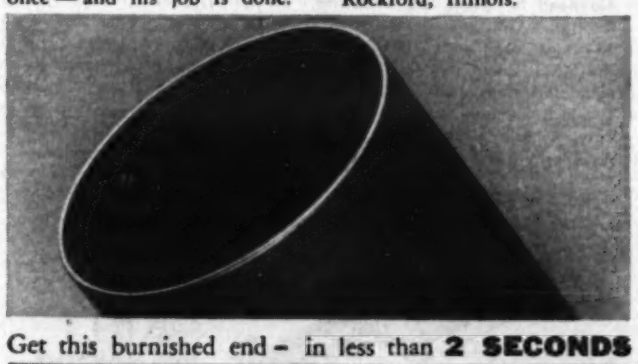


But that's not all of its unique features.

and with the same machine

THE OPERATOR has only to insert the end of the object to be deburred into the deburring attachment, rotate once — and his job is done.

WALLACE worked out this combination unit to meet the special needs of a group of machine tool builders in Rockford, Illinois.



Get this burnished end – in less than **2 SECONDS**

In addition to having a saw capable of making fast, square and accurate cuts, with minimum burr, Wallace now goes one step further. Built into the new Wallace Portable 10" Abrasive Cutting Unit, is a deburring unit.

It is now possible to make square, burnished ends on material, without clamping or using blades.

The deburring unit is mounted on the special end bell housing of the saw motor. Power is supplied by an extension shaft on the saw motor. Special wire wheels, developed for this work, are mounted in a housing.

The operator has but to insert the cut tube into the opening in the housing — rotate half a turn — and in less than two seconds a burnished end is produced.

This machine is ideal for applications where finish and squareness are important.

Such as:

1. Hydraulic tube lines over which close fitting sleeves are placed.
2. Tubes requiring subsequent fabrication. Example—flare or slide fit over mandrel for bending.
3. Structural sections exposed on machinery.

The work-holding device is cam-operated. It can be adjusted quickly to hold tightly the material to be cut on both sides of the wheel path.

We find most people want to know about this machine for one of two reasons. Either because they want something for their files or because they feel they need help with a problem.

If you have a cutting problem we want to give you all the help our company can. Your problems may be similar to those others have had. In that case we can help quickly.

At this point, however, we are at a serious disadvantage. We don't know enough. We have to "know more."

You can tell us your story in one of two ways. Write us or phone us. We prefer the latter ourselves because then we can talk with each other. We can "get together" easier by phone. We can exchange ideas.

Please feel free to call us collect. Our number here is BUckingham 1-7000.

Every plant should have modern abrasive cut-off machines. Old fashioned blade type saws are not enough.

No other cutting equipment cuts so fast. No other equipment can cut so clean. Only abrasives can cut some materials.

We will be glad to cut and return to you any cuttable material you would like to have as samples.

You get the information we need to us. We will get the information back to you that will enable you to get the results only abrasives can produce.

You, too, can profit by using this Combination Cutting Unit.

ORDER YOUR COMBINATION UNIT TODAY!

You can't lose — you will get help.

Don't wait
Call Collect — BUckingham 1-7000 or if not urgent
Write to

WALLACE SUPPLIES MFG. CO.
1306 WOLFRAM STREET—CHICAGO 13, ILLINOIS

▲ For more details circle NED-190 K5 on enclosed inquiry slip ▲

LIMIT SWITCH
controls two independent circuits

Wide range of industrial applications where space is limited can make use of the model 1LS1 heavy duty limit switch, designed for control of two independent circuits. Sealed switch has a roller arm actuator which can be field-adjusted through 360 degrees with locking in any position. Actuation may be clockwise, counterclockwise or in both directions. Actuator head may be faced at any of four positions at 90-degree angles. Contact arrangement is two-circuit, double-break. Electrical rating is 10 amp at 120, 240 or 480 v ac and pilot duty rating is 0.2, 0.1 and 0.04-amp at 115, 230 and 550 v dc, respectively. Made by **Minneapolis-Honeywell Regulator Co.,** Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

▲ For more details circle NED-191 K5 on enclosed inquiry slip ▲

METAL OFFSET PLATES
positive type made in 10 minutes for use on offset duplicator

Positive metal offset plates prepared by xerography make use of an inexpensive 10 x 15-in. translucent film called a XeroX Trans-Positive Sheet, onto which any type of original document may be copied by xerography. The sheet, in effect a positive film, is then transposed on a positive working, presensitized metal plate and both are exposed to an ultraviolet light.

Light acts upon the sensitized coating in all areas except those shielded by the opaqueness of the image in the XeroX sheet. After exposure the metal plate is quickly developed and finished with fluids supplied by the plate manufacturer. It is then ready for the offset duplicator. Entire operation requires about 10 minutes.

Standard XeroX copying equipment is used in the xerographic phase and fusing of the Trans-Positive Sheets is performed in a vapor fuser, a new accessory. Original documents printed on one or both sides can be enlarged, reduced or copied the same size. Made by **Haloid Co.,** 556 Haloid St., Rochester 3, N. Y.

▲ For more details circle NED-192 K5 on enclosed inquiry slip ▲

Wheelabrator Steel Shot has proved its ability to cut abrasive costs as much as 60%, 38%, 45% and 57% in hundreds of applications. This electric furnace steel shot not only cleans faster but lasts longer than other abrasives. It provides greater coverage, insures uniform results and cuts maintenance costs. Plus features include 50 lb. carton packaging and palletized shipments to save handling time.

Send for Bulletin 89-B.

WHEELABRATOR
CORPORATION
(Formerly American Wheelabrator & Equipment Corp.)
508 S. Byrkit St., Mishawaka, Indiana

▲ For more details circle NED-193 K5 on enclosed inquiry slip ▲

The advantages of plug nuts are many-fold. Both the designer and the production man will find they can solve many special fastening problems that cannot be economically solved in any other way.

For instance, plug nuts are the ideal solution to "one way" fastening where it is difficult or impossible to work from both sides of the assembly.

Plug nuts can often eliminate or simplify machining operations, improve the product, simplify design or reduce assembly, and hence, labor costs.

If you have an application where you think you might use plug nuts, send us the size required, or details of the application, and we'll be happy to send sample nuts for trial.

For additional detailed information send for the Lamson Plug Nut Brochure.

PLUG NUT SIZES AND TYPES

Plug Nuts are available in sizes ranging from No. 4 to ½" diameter—fine or coarse threads. Plug Nuts work in copper, brass, magnesium, aluminum, steel, alloy steel castings (die and sand) and forgings.

The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

▲ For more details circle NED-194 K5 on enclosed inquiry slip ▲

Cutting costs in thousands of drafting rooms

Kodagraph Reproduction Materials eliminate tedious retracing . . . produce better shop prints . . . simplify print production. Whether you make your own prints or use a blueprinter, it will pay you to know them.

Paper, gives you positive photographic intermediates directly from blueprints and other negatives.

Kodagraph Contact Paper is designed for use in contact photocopy printers . . . produces outstanding negatives.

Kodagraph Autopositive Papers and Film produce positive photographic intermediates without a negative step; can be exposed in standard print-making equipment . . . processed in standard photographic solutions. Fast, easy roomlight handling!

Kodagraph Projection Papers give you highest quality enlargements from microfilm or other reduced-scale negatives.

Write today for free booklet which describes all these materials.

Kodagraph Reproduction Materials

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

▲ For more details circle NED-195 K5 on enclosed inquiry slip ▲

ARMSTRONG-BRAY
HYDRAGRIP
HYDRAULIC PULLERS

Valuable Maintenance Tool

With the handy HYDRAGRIP and a few ARMSTRONG-BRAY Pullers, you can quickly, safely and easily remove gears, wheels, bearings, sheaves or parts from shafts, can re-install them with equal ease. Single centered ram assures aligned thrust that moves parts along shafts smoothly without wedging or binding. Saves time, saves parts—ends battering and breakage. The HYDRAGRIP—comes complete with handy, portable, hydraulic hand pump, high pressure connecting hose and 17½-ton capacity hydraulic jack with interchangeable heads.

Write for Catalog Sheet —describes HYDRAGRIP and complete line of standard and special external and internal pullers.

ARMSTRONG-BRAY & CO.
5362 NORTHWEST HIGHWAY • CHICAGO 30, ILL.

▲ For more details circle NED-197 K5 on enclosed inquiry slip ▲

VALUE LEADER

28 functional ranges for wide measurement needs

only $42.50

WESTON (Model 980)
VOLT-OHM-MILLIAMMETER

...the biggest value ever offered in test equipment...ideal for production testing, maintenance and trouble shooting, and all-'round measurement needs. Broad range coverage as follows:

D-C Volts: 1.6, 8, 40, 160, 400, 1600 (20,000 Ohms/Volt)
A-C Volts: 1.6, 8, 40, 160, 400, 1600 (1,000 Ohms/Volt)
DB Range: −15 db to +54 db (in six ranges)
D-C Microamperes: 80
D-C Milliamperes: 8, 80, 800
D-C Amperes: 8

OHMS RANGE	CENTER SCALE	FULL SCALE
R x 1	25	1,000
R x 10	250	10,000
R x 100	2,500	100,000
R x 1,000	25,000	1 megohm
R x 10,000	250,000	10 megohms

Accuracy 2% d-c, 3% a-c
Scale length 4.63"—size 6¼" x 7½" x 3¼"
Weight 2 lbs., 11 oz.

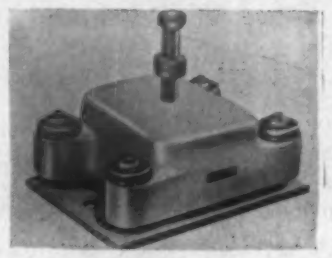
For descriptive bulletin, write WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, N. J.

At leading Distributors

WESTON *Instruments*

▲ For more details circle NED-198 K5 on enclosed inquiry slip ▲

VIBRATION MOUNT
affords sway and thrust control



Helical steel springs, rubber thrust bumpers, nylon dampers and steel base plate with sway control assemblies are featured in this Finnflex type SB vibration mount. A dual-purpose bolt secures mounting to machine and also provides a means of leveling. Nylon-lined, precompressed, cylindrical rubber bumpers absorb thrust in any horizontal direction. Optimum damping is provided by nylon liners. Wear is taken up and adjustment maintained automatically. Proper sway control can be set by adjustment of self-locking control nuts. Base plates are rubber-bottomed to eliminate "creeping." Forty-one sizes range in load capacities from 100 to 6500 lb. Made by **T. R. Finn & Co.**, Industrial Div., Dept. AT, 200 Central Ave., Hawthorne, N. J.

▲ For more details circle NED-199 K5 on enclosed inquiry slip ▲

SMALL MACHINE LUBRICATOR
feeds oil to up to 25 bearing points

Cyclic type NV automatic lubricator will feed controlled amounts of oil to as many as 25 bearing points on such mechanisms as bench top presses, tabulating and testing machinery. Measuring 2 x 3 x 4¼ in., unit is driven by machinery it lubricates. Drive is transmitted through series of reduction gears to piston type pump which discharges oil at 30 psi into a system of 5/32-in. tubing. Pump delivers 0.4-cc of oil per discharge from 80-cc capacity reservoir. Four available sets of gears provide reduction ratios from 100:1 to 2¼ million to 1. Manually actuated instant feed button is provided. Made by **Bijur Lubricating Corp.**, Dept. N, 151 W. Passaic St., Rochelle Park, N. J.

▲ For more details circle NED-200 K5 on enclosed inquiry slip ▲

Architectural Aluminum

Aluminum Co. of America—Two available booklets on Alcoa architectural aluminum deal respectively with "Care During Construction" and "Cleaning and Maintenance." Former describes appropriate finishes and protective coatings, and discusses care during storage, handling, installation and erection. Latter describes proper application of waxes and lacquers, heavy-duty cleaning and tips for alterations and remodeling.

▲ For more details circle NED-201 K5 on enclosed inquiry slip ▲

SOLVE YOUR ROTARY SEALING PROBLEMS with FAWICK ROTORSEALS

Machine problems requiring transmission of air or liquids from stationary to rotating machine members are best solved with FAWICK ROTORSEALS.

Precision ROTORSEALS are available in single and multiple passage units, insuring dependable sealing of air, liquids or gases under pressure. They are equally effective in vacuum applications and may be operated continuously or intermittently in either direction.

Write for ROTORSEAL Bulletin ML-6.

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 CLINTON ROAD • CLEVELAND 11, OHIO
IN CANADA: FAWICK CANADA, LTD., TORONTO—MONTREAL

FAWICK Airflex

▲ For more details circle NED-202 K5 on enclosed inquiry slip ▲

PIPELINE FILTERS
remove oil, water and dirt from air lines

Air-Maze pipeline filters are recommended for use on the discharge side of compressors to remove oil, water and pipe scale from air lines. A combination of both centrifugal and impingement action provides high efficiency with low pressure drop. An extra large reservoir collects the accumulated water, oil and contamination, insuring a long interval between draining. Air-Maze pipeline filters are all-metal with a bronze separator element removable for cleaning. Available for gauge pressures up to 150 psi., ½", ¾", 1½", and 2" pipe sizes. For further information, send for booklet PLF446. Made by **THE AIR-MAZE CORPORATION**, 25000 Miles Avenue, Cleveland 28, Ohio. (*Advt.*)

▲ For more details circle NED-203 K5 on enclosed inquiry slip ▲

There's an Easier Way!...

No need to "work like a beaver" on cutting jobs. Now . . . zip through 3/16" aluminum, Fiberglas, plastics, plastic laminates, even 16-gauge steel, with minimum effort . . . maximum speed . . . with the KETT Panel Master Saw. Its performance is outstanding on metal laminates such as Mirawal, Metlwal, Met-L-Wood and Amorply. Two-inch diameter saw blades give full ⅜" depth cut. Leaves accurate, smooth milled edge that requires no sanding or finishing. Amazingly easy to use . . . extra rugged for long, hard service.

Powered by heavy duty, industrial type 110 volt AC/DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.

write for Catalog E-22

KS-3AM Panel Master Saw

THE KETT TOOL COMPANY
5 East Third St.
Cincinnati 2, Ohio

▲ For more details circle NED-204 K5 on enclosed inquiry slip ▲

NEW and BETTER!

Ask for BULLETIN 4600-B

Here, in this 8-page (8½" x 11") illustrated BULLETIN 4600-B, is full information on the new, improved line of DEMING VERTICAL SUMP PUMPS. Single and Duplex types designed for a wide range of sump pump requirements are included. Complete performance tables expedite selection of best type and capacity for your specific needs.

Send for Free copy of Bulletin 4600-B

THE DEMING CO.
520 BROADWAY ★ SALEM, OHIO

▲ For more details circle NED-205 K5 on enclosed inquiry slip ▲

A Complete Bushing Guide

FOR YOUR ENGINEERING AND PURCHASING FILES

Everything you need to know about Drill Jig Bushings. This catalog pictures and describes A.S.A. standard bushings. Gives helpful suggestions to purchasers and designers, lists hundreds of Ex-Cell-O bushings available from stock. Makes ordering quick and easy.

Write Ex-Cell-O for this Bushing Guide—as many as you'll need.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

XLO

54-19

For more details circle NED-206 K5 on enclosed inquiry slip

FOR HIGHER THAN AVERAGE PRESSURES OF AIR, WATER

HAMILTON VARI-PURPOSE Industrial HOSE

OIL, SUN AND ABRASION-RESISTANT COVER

Tough, abrasion-resistant cover inseparably bonded to a specially compounded, oil-resistant tube, reinforced with highest quality CORDURA rayon yarn.

A single hose to handle almost any maintenance job. Tough, resilient, durable; will carry a wide range of materials. A general purpose hose of long life and low net cost.

Available in standard lengths. Red or black covers. Sizes ¼" to 1½" I.D. with working pressures 125-300 pounds. See your local distributor.

OVER 85 YEARS OF SERVICE TO INDUSTRY

HAMILTON RUBBER MFG. CORP.
Executive Office and Factories, 103 Meade St., Trenton, N.J.

Be sure . . . use Hamilton . . . Always dependable!

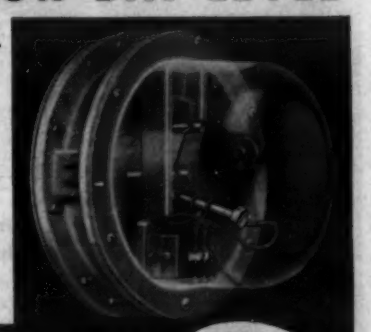
For more details circle NED-207 K5 on enclosed inquiry slip

BIN-FLO AERATING UNIT

Provides Steady Flow of Dry, Finely Ground Materials which tend to bridge in storage. Uses only small amount low-pressure air.

BIN-DICATOR BIN LEVEL INDICATOR

For All Bulk Materials



signals change in level; automatically starts and stops filling and emptying equipment.

THE BIN-DICATOR CO.
13946-A Kercheval • Detroit 15, Mich.

NEW DETAIL DATA BOOK FREE

For more details circle NED-208 K5 on enclosed inquiry slip

RECHARGEABLE FLASHLIGHT
new cells take over 200 chargings

Batteries used in Multi-Lite rechargeable flashlights will take more than 200 chargings — each charge lasting as long as a dry cell. Batteries are not removed from the two-cell light. Lead from charger, which takes 110 v, plugs into base of the light. Batteries are recharged overnight. Charger handles several flashlights alternately. Batteries are made of nickel cadmium and are hermetically sealed. Multi-Lite, including batteries and charger sells for $19.95. Made by **Gould-National Batteries, Inc.**, Dept. R.F., Depew, N. Y.

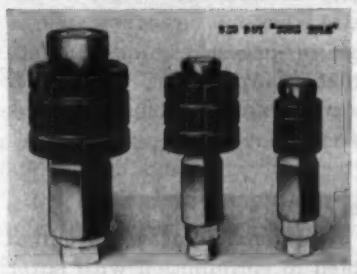
For more details circle NED-209 K5 on enclosed inquiry slip

HEAT-RESISTANT DECALS
also resist active solvents

Because of their ability to resist active solvents, Meyercord heat-resistant decals are particularly suited to jet aircraft fuel lines. Other applications are engine blocks and exhaust pipes, home appliances, high speed tools, electronic equipment, hot pipes and transformers. Any color combination is offered in type HR, SHR and HHR decals. First type will resist temperatures up to 400° F; the second Sustained Heat Resistant type has temperature range of 500 to 600° F on smooth rigid surfaces; and the third High Heat Resistant type will withstand intermittent temperatures up to 1000° F on rigid surfaces. Made by **Meyercord Co.**, Dept. NE8, 5323 W. Lake St., Chicago 44, Ill.

For more details circle NED-210 K5 on enclosed inquiry slip

PIPE & TUBE REMOVAL TOOL
three sizes for 2 to 4½ in. ID



Six moveable knurled surface segments on the inserted end of Tube Tule pipe and tube removal tool are expanded to make a nonslipping contact on the internal wall. Application of wrench pressure on the hex body permits moving the tube or pipe in or out of a connection without cracking or splitting. Use can be with such materials as metal, fiber, glass, plastic and composition. Big Boy Tube Tule sizes are for 2 to 2½-in. pipe or tube, 3 to 3½ in. and 4 to 4½ in. ID. Three previous announced smaller sizes (*NED, July* '54) are for ½, ¾ and 1, and 1¼ and 1½ in. ID. Made by **Double T Products Co.**, Dept. NED-1, 301 Acacia St., Hawthorne, Calif.

For more details circle NED-211 K5 on enclosed inquiry slip

what a sweetheart . . . for IDEAS

It's Hyde's new industrial products catalog, of course. Here is a new concept in a hand and machine knife catalog. It's jam packed with the largest selection of industrial knives anywhere. Loaded with illustrations and suggestions for knife uses. Just off the press — it's waiting for you — for free.

WRITE TODAY

HYDE MANUFACTURING CO.
SOUTHBRIDGE, MASS., U.S.A.

HYDE PRODUCTS FOR INDUSTRY

For more details circle NED-212 K5 on enclosed inquiry slip

NOW! BUILD YOUR OWN Pallet Racks, Rails and Shelving . . . with

Nu-Rail SLIP-ON FITTINGS
AN ENTIRELY NEW METHOD OF FITTING PIPE

NO WELDING! USE ALL PARTS OVER AND OVER AGAIN!

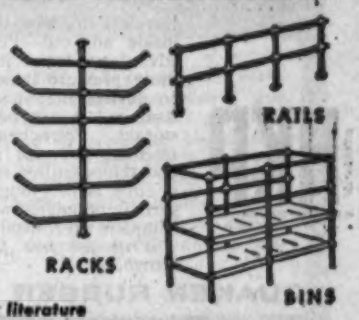
USE ANY I.P.S. PIPE OR TUBING . . .
NO PIPE CUTTING . . . NO WELDING

Build them when and where you need them

SAVE MONEY, too!

Just a few examples of Nu-Rail versatility! If it's made of pipe . . . you can make it BETTER, FASTER AND FOR LESS . . . with Nu-Rail!

Distributed coast to coast.

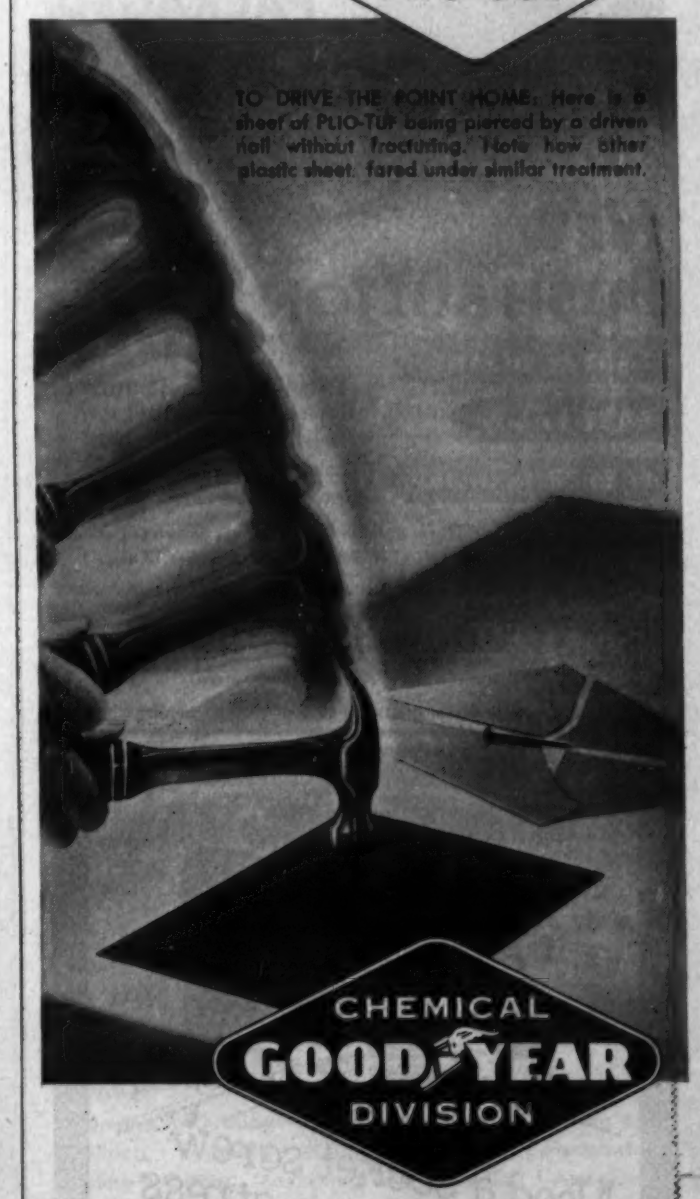


Write for literature

THE HOLLAENDER MFG. CO.
3840 Spring Grove Ave., CINCINNATI 23, OHIO

For more details circle NED-213 K5 on enclosed inquiry slip

ADD IMPACT to your product with Plio-Tuf



Greater sales impact through greater impact-resistance is now possible for your product with PLIO-TUF. This internally reinforced high styrene copolymer brings a new high in impact strength to styrene-type plastics, particularly at low temperatures. PLIO-TUF also displays unusual resistance to heat plus excellent stiffness. And all this is in addition to the normal advantages expected of today's plastics. Details on excitingly different PLIO-TUF as post-formable sheets or as resin for calendering are yours by writing:

Goodyear, Chemical Division, Akron 16, Ohio

Plio-Tuf —T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-214 K5 on enclosed inquiry slip

Oil, Abrasion, Heat Won't Hurt Remarkable Petrochem Fire Hose

Here's a fire hose that is absolutely oil-resistant, inside and out—Petrochem. It has many other advantages, too... it's 50% lighter, yet takes 50% more pressure than conventional fire hose. It's so flexible that it can be tied in knots without damage. It can be easily coiled for minimum storage. Petrochem is strong and abrasion-resistant . . . for pressures up to 500 pounds and temperatures up to 300°F.

Tube is of Neoprene . . . jacket of Dacron yarn, impregnated with black Neoprene . . . means complete oil-resistance, inside or out.

Write for free folder and name of nearest distributor.

HKP — H. K. PORTER COMPANY, INC.

QUAKER RUBBER CORPORATION
Philadelphia 24, Pennsylvania
QUAKER PIONEER RUBBER MILLS
San Francisco 7, California

▲ For more details circle NED-215 K5 on enclosed inquiry slip ▲

NEW PUSH BUTTON KIT

EASY to Identify
EASY to Buy
FASTER to Install

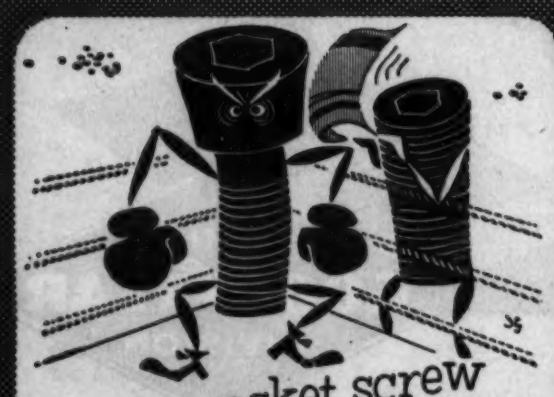
OTHER KITS: Selector Switches, Interlocks, Replacement Parts, Contacts, Coils, Overload Relays

Write for Bulletin 9999. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

▲ For more details circle NED-216 K5 on enclosed inquiry slip ▲



Need a socket screw to take shock, stress or strain?

Add extra strength to your fastening—Mac-it Socket Head Cap Screws and Hollow Set Screws withstand maximum punishment!

Mac-it Socket Screws have:
- High-grade alloy steel
- Heat treated for extra strength
- Accurate dimensions • Class 3 fit

Your local Mac-it distributor stocks all standard sizes and gives speedy service on "specials".

Write for your Mac-it catalog today:

Mac-it Screw Division
STRONG, CARLISLE & HAMMOND COMPANY
CLEVELAND 13, OHIO
Mfd by Mac-it Parts Co., Lancaster, Pa.

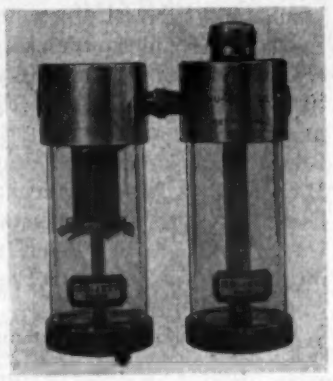
▲ For more details circle NED-217 K5 on enclosed inquiry slip ▲

BONDED ABRASIVE WHEELS sizes range from 6 to 20 in.

Qualities essential to dry production metal cutoff operations are combined in B7 line of Aloxite aluminum oxide resinoid cutoff wheels. R grade is intended for operations where minimum burn and burr are required; T grade is for general purpose work where some burn and burring is acceptable; and the V grade is made for rough work where maximum wheel life is important. Sizes range from 6 to 20 in. diameter and come in thicknesses of 1/16, 3/32 and ⅛-in. Metal bushings are supplied on all arbor holes in range of ⅝ to 1⅜ in. All wheels are offered in 24 to 120 grit. Made by **Carborundum Co.**, Bonded Abrasives Div., Dept. NED. Box 337, Niagara Falls, N. Y.

▲ For more details circle NED-218 K5 on enclosed inquiry slip ▲

FILTER-LUBRICATOR activation is instantaneous



This filter - lubricator which is used with air cylinders or other cycling pneumatic equipment is designed for ¼ and ⅜-in. pipe. Oil is always present in air stream so that response to sudden demand changes is instantaneous. The moment air flows through unit, oil moves with it. This flow is adjusted by control on top of unit which raises and lowers porous metal oil feed wick. It also varies the size of the venturi which governs air velocity around the wick. Filter unit has built-in automatic cleanout. Performance is efficient over wide range of pressures and volume. Made by **Nu-Jett Products Corp.**, Dept. N-7, 1355 Michigan Ave. N.E., Grand Rapids, Mich.

▲ For more details circle NED-219 K5 on enclosed inquiry slip ▲

Heat Transfer Surface

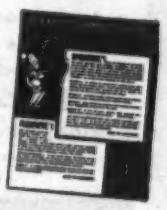
Bush Mfg. Co.—An arrangement of longitudinal fins inside a tube assembled in conjunction with outer fins comprises Inner-Fin, the heat transfer surface described in illustrated 4-page bulletin 850. Small inner tube is mechanically expanded, locking the longitudinal inner fins in close contact with the inner wall of the outside tube. Engineering data and application information are given.

▲ For more details circle NED-220 K5 on enclosed inquiry slip ▲

▲ For more details circle NED-221 K5 on enclosed inquiry slip ▲

Spiratube®, a neoprene-coated flexible tubing, is designed to carry air, other gases, many solids and liquids at low pressure. It is available in diameters up to 30" and is extremely light in weight, easily retractable and portable.

A Spiratube system can be installed in a very short time. No costly elbows or special fittings are required, since flexible Spiratube bends easily around obstructions or corners, without loss of efficiency.



This Bulletin shows you how SPIRATUBE will reduce production costs! Send for it today. Dept. 2

Flexible Tubing CORPORATION
Guilford, Connecticut • Los Angeles 64, California

▲ For more details circle NED-222 K5 on enclosed inquiry slip ▲

▲ For more details circle NED-223 K5 on enclosed inquiry slip ▲

Remove Oily and Greasy Dirt

Faster

with New

Brulin

Brulinsolv

A Concentrated Solvent Emulsion Cleaner

- **Brulinsolv is faster-acting**—Cleaning time can be cut when mixed with low cost solvents.
- **Brulinsolv is economical**—Supplied as a concentrate, a little goes a long way.

and NOW . . .

- Brulinsolv has a pleasant odor—that your operators, mechanics and customers will appreciate.

Write today for more information.

BRULIN & COMPANY, INC.
2944 Columbia Avenue • Indianapolis 7, Indiana
1794 12th Street • Oakland 7, California

For more details circle NED-224 K5 on enclosed inquiry slip

the only tool need for all fastenings

New Double-Duty

REMINGTON STUD DRIVER

Sets both ¼" and ⅜" studs in steel or concrete—in seconds!

Light-, medium- or heavy-duty fastening, the new Model 455 Remington Stud Driver speeds the job. It sets *two* different size studs . . . up to 6 studs per minute, either size . . . and offers new possibilities in anchoring conduit clips, steel frames, wood forms and many other fixtures.

Powerful 22 and 32 caliber cartridges drive ¼" and ⅜" studs *solidly* into steel or concrete. For special medium-duty work, the smaller cartridge is used with the larger stud. Result: the greatest flexibility ever in a cartridge-powered tool! Just clip coupon for details.

"If It's Remington—It's Right!"

Remington DUPONT

MAIL THIS COUPON TODAY

Industrial Sales Division
Remington Arms Co., Inc., Bridgeport 2, Conn.

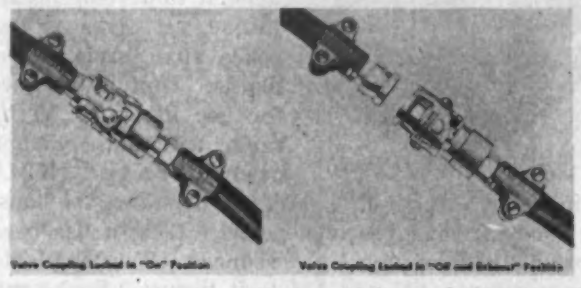
Please send me your free booklet which shows where and how to use the cost-saving Remington Stud Driver fastening method.

Name_____ Position_____
Firm_____
Address_____
City_____ State_____
NED-10

For more details circle NED-223 K5 on enclosed inquiry slip

VALVE COUPLING for up to ¾-in., 250-psi air lines

Line air can be shut off and tools changed easily and safely at any point when air lines are equipped with Quick-As-Wink valve couplings. With knurled brass



sleeve advanced to "on" position, line air can flow through sleeve and out through line to air-operated tool. Turning sleeve to right locks both coupling and valve in "on" position, preventing accidental disconnection. Returning sleeve to "off and exhaust" position exhausts air in tool, traps the line air in the sleeve and allows jaws of coupling to be opened for making connection to another tool. Turning sleeve to left locks valve in this position, preventing accidental opening. Valves are offered in ¼, ⅜, ½ and ¾-in. sizes for pressures up to 250 psi. Made by **C. B. Hunt & Son, Inc.**, 1860 E. Pershing Ave., Salem, O.

For more details circle NED-225 K5 on enclosed inquiry slip

CENTRIFUGAL FAN features airfoil blade design for high efficiency, quiet operation

Backward - curved, all-aluminum airfoil blade design in type BC centrifugal airfoil fans produces complete freedom from air flow separation at all normal working pressures. Resulting elimination of open vortex region on under side of blade steps up efficiency and enables quieter operation than previous designs. Fans have sparkproof construction and nonoverloading features. Maximum tip speed of 13,500 fpm is possible.

Six basic sizes comprise the line, with each available with direct-connected or belted drive. Choice of dual voltage motors in former type consists of 115/230-v, single-phase or 220/440-v, three-phase. Housing finishes of vinyl resin, baked-on Bakelite phenolic resin or thermoplastic are offered. Optional accessories include variable air controller, clean-out door, and drains with nipple and cap or drain cock. Made by **Ilg Electric Ventilating Co.**, 2854 N. Pulaski Rd., Chicago 41, Ill.

For more details circle NED-226 K5 on enclosed inquiry slip

CEC Type 4-118 **VIBRATION PICKUP**

Designed for Accuracy at High Temperatures

Now, new hermetic sealing and a special Inconel spring suspension assure long, accurate life to this miniature, self-generating vibration pickup. It weighs *less than 1.5 ounces*, is ideal for vibration analysis where the temperature is high, space is limited, and the weight of larger pickups cannot be tolerated.

Sensitivity	105 mv/in/sec ±5% @ 250 cps, 100°F, into 50,000-ohm load
Frequency Response	Flat ±10% of 250-cps response @ 100°F from 50 to 500 cps for peak accelerations greater than 1 g.
Maximum Amplitude	0.12 in. double amplitude
Useful Temp. Range	−65° to +500°F
Damping	Magnetic
Natural Frequency	30 cps
Size, Weight	0.96" high x 0.8" diameter; 1.435 oz. with cable

Send for pickup bulletin CEC1535B-X5

Consolidated Engineering *Corporation*
ELECTRONIC INSTRUMENTS FOR MEASUREMENT AND CONTROL
300 North Sierra Madre Villa, Pasadena 15, California

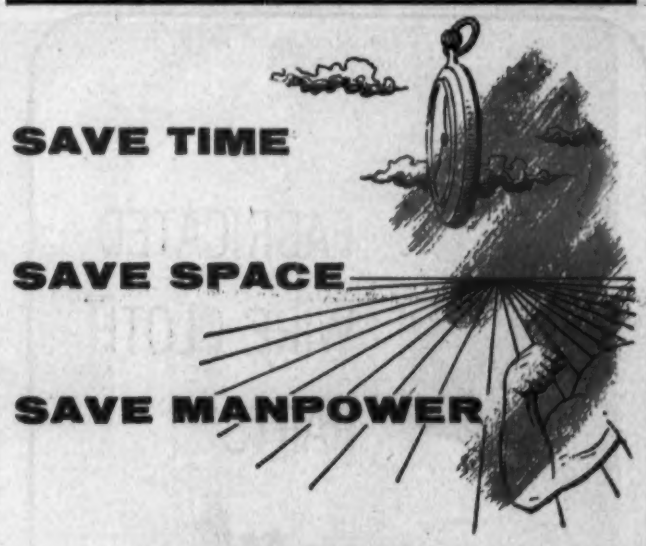
For more details circle NED-227 K5 on enclosed inquiry slip

The Martin-Decker *Sensater*

The SU-20 Sensater is a new kind of hydraulic hook scale whose frictionless, rolling-stroke diaphragm assures you ¼ of 1% accuracy. The Sensater is compact and light weight, yet ruggedly designed for years of trouble-free operation. Dial tilts up or down to any eye level. Full 360° dial. Full 360° hook rotation. High safety factor. Capacities: 2,500; 5,000; 10,000; and 20,000 lbs. Write for prices and descriptive literature. Martin-Decker Corporation, 3431 Cherry Avenue, Long Beach 7, California, Department S-9.

MARTIN-DECKER CORP.
HOME OF THE WEIGHT INDICATOR — LONG BEACH, CALIFORNIA

For more details circle NED-228 K5 on enclosed inquiry slip



. . . with Fostoria Radiant Ovens

That's the Fostoria *story of savings* . . . savings that you can realize in your plant on baking, drying, dehydrating, preheating and degreasing. Efficient Fostoria Infrared Ovens provide uniform heat distribution to improve product quality at lowest operating cost. And you can step up production with less manpower, less time, less space!

Read our new book, "Applications Unlimited," for the complete story. Write for it today . . . there's no obligation.

fostoria INFRA-RED SYSTEM

THE FOSTORIA PRESSED STEEL CORPORATION
5507 Dept. 1008 Fostoria, Ohio

For more details circle NED-229 K5 on enclosed inquiry slip

NEW . . . helpful data

A guide to fabricating stainless tubing and pipe

Here's the last word on shop-proved methods of fabricating and working stainless tubing and pipe. Described and illustrated are these eleven different operations:

• Bending • Forming • Expanding • Beading, Flaring and Flanging • Spinning • Welding • Soldering • Mechanical Joining • Cutting, Machining and Threading • Annealing and Pickling • Finishing and Grinding

A copy is yours for the asking. Send the coupon today.

Gentlemen:
Send me your Bulletin T.D. 114 on fabrication of stainless tubing and pipe.

NAME_____
FIRM NAME_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

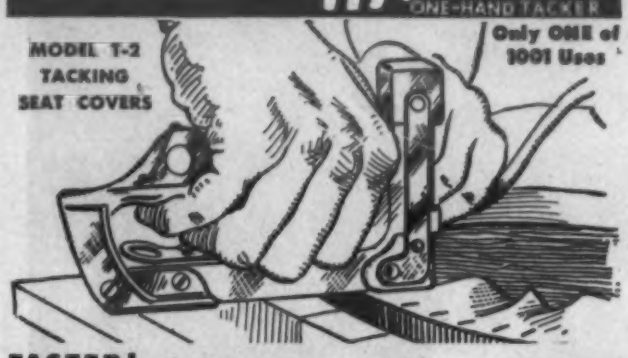
THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, New Jersey

For more details circle NED-230 K5 on enclosed inquiry slip

YOU CAN DO IT AT LESS COST with HANSEN ONE-HAND TACKER

MODEL T-2 TACKING SEAT COVERS

Only ONE of 1001 Uses



FASTER! With its zip-zip compound leverage action, Hansen saves time in all types of tacking and fastening. Fast, easy one-hand operation. Tacks fast as you grip. Leaves one hand free.

BETTER! Balanced design insures accurate, precision driving. Powerful action drives each staple firmly and neatly in place for improved quality and increased holding power. It is adaptable to a wide variety of uses — screens, insulation, TV wires, etc.

AT LESS COST! (MODEL T-3-4 HANSEN TACKER)

Hansen saves *time, steps,* and *materials* — operates faster — saves back-tracking — ready for instant, continual use.

36 DIFFERENT MODELS

80 STAPLE SIZES

Request Booklet ...today

A.L.HANSEN MFG.CO.

5164 RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

▲ For more details circle NED-233 K5 on enclosed inquiry slip ▲

FABRICATED WIRE CLOTH PARTS

to your order

Our special business is specials . . . special fabricated wire cloth parts made to your specifications. We save you time, we save you overhead, we save you production worries. And, you get a better part at a lower cost.

We weave our own cloth . . . your guarantee of quality components. We are fully equipped to do all necessary cutting, shaping, fitting, welding, soldering, punching, binding, etc.

For more information on this "One-Stop" Wire Cloth Parts Service, send for our latest Parts Catalog.

NEWARK for ACCURACY

Newark Wire Cloth COMPANY

351 VERONA AVENUE • NEWARK 4, NEW JERSEY

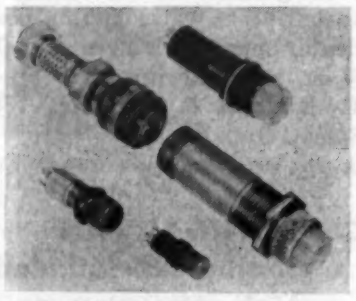
▲ For more details circle NED-234 K5 on enclosed inquiry slip ▲

MAGNETIC BRAKE
for use in 25 to 50 hp range

Improved mechanical design of style H series 1000 magnetic brake enables it to develop higher torque, yet takes up less space than style it replaces. Unit is designed for use in 25 to 50 hp range with both old and newly rerated NEMA frames sizes. It requires 6 in. less clearance for housing removal than previous model. Length has been reduced 2¼ in. and weight reduced. Two available sizes are rated 125 and 175 lb-ft torque. Brake can also be supplied for floor mounting. Made by **Stearns Magnetic, Inc.**, 653 S. 28th St., Milwaukee 46, Wis.

▲ For more details circle NED-235 K5 on enclosed inquiry slip ▲

INDICATING PUSHBUTTONS
various sizes and voltages offered



Line of pushbutton switches containing integral indicator lights covers a size range of ½ to 1 in. mounting hole size and voltage range up to 220 v. Various internal circuits are available, including units with switching contacts and terminals isolated from lamp or indicating unit. Use can be to indicate position of valve and actuate power drives operating them. Made by **Marco Industries Co.**, Dept. NED, 207 S. Helena St., Anaheim, Calif.

▲ For more details circle NED-236 K5 on enclosed inquiry slip ▲

HEAVY-DUTY FOOT SWITCH
features floor mounts

Cast aluminum housing of model FS 15AM foot switch designed for normal and heavy-duty switching of industrial machinery will withstand severe abuse. Actuating treadle operates with light foot pressure, and rubber foot tread prevents foot slippage. Foot switch features mounts for anchoring it to floor or to machine, but is available without the mounts. Contact rating can be made up for 1, 6 and 15 amp standard. Switch is available with or without cord and series plug. Made by **Vemaline Products Co.**, Dept. NED, Box 222S, Hawthorne, N. J.

▲ For more details circle NED-237 K5 on enclosed inquiry slip ▲

RESCUES LAGGING PRODUCTION!

KESTER FLUX-CORE SOLDER has saved the day for many a bogged-down production line. Perhaps it's just the "life saver" you've needed to get your operation back into high gear again. We'll be glad to give you the complete story on Kester's half-a-century's solder experience right away . . . no obligation, of course.

SEND TODAY for the 78-page Kester Informative textbook "SOLDER . . . Its Fundamentals and Usage."

KESTER SOLDER COMPANY 4249 Wrightwood Avenue, Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

▲ For more details circle NED-238 K5 on enclosed inquiry slip ▲

SAVE 3 WAYS WITH STAYNEW HYDRAULIC FILTERS ON YOUR EQUIPMENT

MODEL HE Hydraulic Filter

1. SAVE WEAR ON COSTLY EQUIPMENT
2. SAVE SPOILAGE AND REJECTS AT POINT OF USE
3. SAVE MAN HOURS WASTED IN EQUIPMENT REPAIRS AND MAINTENANCE

For top performance and economical operation, specify Staynew Filters as original equipment on your hydraulically operated machinery. All types of metallic mesh and fabric media are available.

Our Engineering Department will welcome the opportunity of recommending the type of Staynew Filter best suited for your specific need. Write today for Bulletin HF-2.

Representatives in Principal Cities

DOLLINGER STAYNEW FILTERS

DOLLINGER CORPORATION 49 Centre Pk., Rochester 3, N. Y.

ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

▲ For more details circle NED-239 K5 on enclosed inquiry slip ▲

THE QUICK, EASY WAY TO REMOVE AN OBJECT FROM A SHAFT!

This Powerful, Hydraulic

PULLEY PULLER

For Removing Pulleys, Wheels, Gears, Coupling, Sheaves, etc.

One man can do it in minutes — even if objects are stuck fast. No crowbars, sledges, or blowtorches. No damage to equipment. Puller is adjustable — easy to move — rugged. Hundreds being used in industry.

- 5-ton size on wheels $101.75
- 20-ton size on wheels $319.00
- 50-ton size on wheels $720.50

F.O.B. Factory. New Quicklink chain and set of ten ram adaptors as shown, at slight additional cost.
Write for complete information — Catalog E

INDUSTRIAL ENGINEERING EQUIPMENT CO.
122-124 E. 4th St. Davenport, Iowa

▲ For more details circle NED-240 K5 on enclosed inquiry slip ▲

". . . OVER 800 HOURS OF EXCELLENT SERVICE"

". . . ABOUT 30 TIMES THE NUMBER OF PIECES BETWEEN SHARPENINGS . . ."

ENTHUSIASM . . . .

Customer enthusiasm is natural for Meyco Carbide Tipped Sticker Knives, Cope Heads, Shapers, Moulders and Router Bits. Such carbide tipped cutters generate less heat than steel tools, are fed into the work easier and faster; they last an unbelievably longer time and produce smoother finishes often eliminating a sanding or polishing operation.

Write for Bulletin No. 39

Made to YOUR specifications! Inquiries welcome on the application and cost of Meyco carbide tipped cutters.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

▲ For more details circle NED-241 K5 on enclosed inquiry slip ▲

This Special Delivered in Less Than a Week!

It was a rush job! A manufacturer needed this special hinge fast. He came to Stanley . . . and he's glad he did. Our Industrial Hardware Division was able to make and deliver a substantial quantity in *less than a week!*

The Stanley Works has been making all kinds of products out of metal for over 100 years. We have experience, facilities and personnel to do many jobs well. Send us your problem. Write Industrial Hardware Division, The Stanley Works, 580 Lake St., New Britain, Conn., or the Indianapolis Office—Kahn Building, 7 N. Meridian, Indianapolis 4, Ind.

STANLEY

The Stanley Works, New Britain, Connecticut

Hardware • Tools • Electric Tools • Steel • Steel Strapping

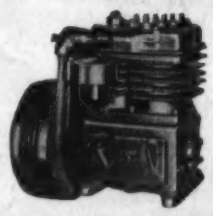
▲ For more details circle NED-242 K5 on enclosed inquiry slip ▲

GET MORE PRODUCTION PER MAN HOUR

with the Help of Dependable Efficient

Curtis

Air Compressors

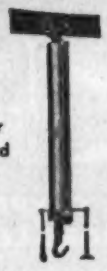


Available up to 320 cu. ft. Can be supplied base mounted up to 50 H.P. or tank mounted up to 15 H.P. Timken bearing equipped . . . precision built.

Air Cylinders and Hoists

To lift, lower, push, or pull

Pendant air hoist is ideal for lifting or lowering—Bracketed Air cylinder can be mounted in any position for lifting, lowering, pushing or pulling.



For more information write to:

CURTIS PNEUMATIC MACHINERY DIVISION of Curtis Mfg. Co.
1979 Kienlen Avenue • St. Louis 20, Missouri 764

100 Years of Successful Manufacturing Experience

▲ For more details circle NED-243 K5 on enclosed inquiry slip ▲

NONSLIP SURFACE THAT GOES ON LIKE PAINT

Tread-sure, an abrasive-filled plastic brushcoating, produces an antiskid surface on wood, concrete or steel. Resists gasoline, alcohol, oil, grease and many types of acids. Provides nonslip safety footing on walkways or stairs whether the surface is wet, dry or oily, either indoors or outdoors. Available in Battleship Gray, Red, Green and Yellow. For full information, write: Dept. H15-1068.

Subsidiary of Chemical Corporation

A. C. Horn Co., Inc.
Long Island City 1, New York

DIVISIONS OF SUN CHEMICAL CORPORATION

HORN • RUSCOR • WILLEY (paints, maintenance and construction materials, industrial coatings) • WARWICK (textile and industrial chemicals) • WARWICK WAX (refiners of specialty waxes) • RUTHERFORD (lithographic equipment) • SUN SUPPLY (lithographic supplies) • GENERAL PRINTING INK (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • MORRILL (news inks) • ELECTRO-TECHNICAL PRODUCTS (coatings and plastics) • PIGMENTS DIVISION (pigments for paints, plastics, printing inks of all kinds)

▲ For more details circle NED-244 K5 on enclosed inquiry slip ▲

AUTOMATIC NAILING MACHINE

nails from ¼ to 1¾ in. long driven either straight or curved

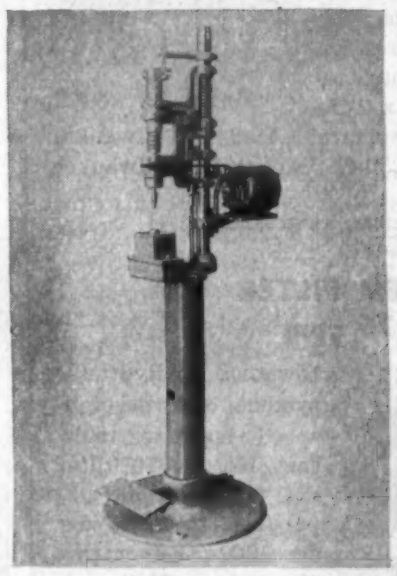
Cutting its nails from a reel of knurled wire, the Trojan-5 Auto-Nailer has a work area 14½ in. high by 8½ in. deep. It will automatically drive nails from ¼ to 1¾ in. long of 15 or 16-gage high tensile strength steel wire at a rate of three per second. Nail lengths are easily adjustable and the machine will clinch or brad the nails when stock thickness permits.

In close-to-edge nailing, the nail can be driven curved instead of straight by quick adjustment of two screws. Machine is entirely adjusted from one side. A thickness gage aids in setting the machine work opening for repetitive work. By squeezing the work under a pressure adjustable up to 1000 lb, splitting of stock is prevented. Made by **Auto-Nailer Co.**, 263 Marietta St. N.W., Atlanta 13, Ga.

▲ For more details circle NED-245 K5 on enclosed inquiry slip ▲

SPIN-IMPACT RIVETER

also swages, flares and reduces



This Economy model vertical floor riveter is designed to handle fasteners up to ¼-in., based on solid mild steel. Either hollow or solid rivets can be used, with larger capacities in aluminum and soft tubular rivets. Parts requiring 7-in. throat and 2⅝-in. gap can be accommodated. Either hand lever or foot pedal operation is offered. Unit employs high-frequency impacting by air and electrical spinning. Impacts range from 8000 to 16,000 blows per minute, controlled by nose piston adjustment and optional air pressures from 40 to 100 psi. Spindle rotation is 1200 rpm. Machine can also be used to swage, flare, reduce and enlarge. Feed travel is ⅝-in. minimum. Made by **Lemert Engineering Co.**, 203 E. Jefferson St., Plymouth, Ind.

▲ For more details circle NED-246 K5 on enclosed inquiry slip ▲

NEW LABOR SAVER

WORKS LIKE DYNAMITE!

but a safe cleaner for aluminum

the original **HYDRO-SEAL** Gunk

Modern cold immersion digestive solvent for cleaning carbonaceous tars, carbon varnish, paint from pneumatic tools, internal combustion engine parts, diesel injector nozzles, oil burner nozzles, carburetors, etc.

- Di-Phase solvent 27 times faster THAN LYE
- Self emulsifying digestive solvent
- Free of causticity and toxic vapors —safe to handle due to water seal
- Brightens metal parts without etching, loss of weight or dimension
- Meets and surpasses performance of U. S. Gov't., AN specifications

Available in 6—30—60 gal. sizes. Ready to use kit. No tank necessary!

Send for HYDRO-SEAL Gunk Technical Data Sheets.

IMMEDIATE DELIVERY 1 GALLON OR A TANK CAR

CURRAN CORP. Mfg. Chemists Lawrence, Mass.

▲ For more details circle NED-247 K5 on enclosed inquiry slip ▲

How to STAKE and BEND WITH YOUR THUMB!

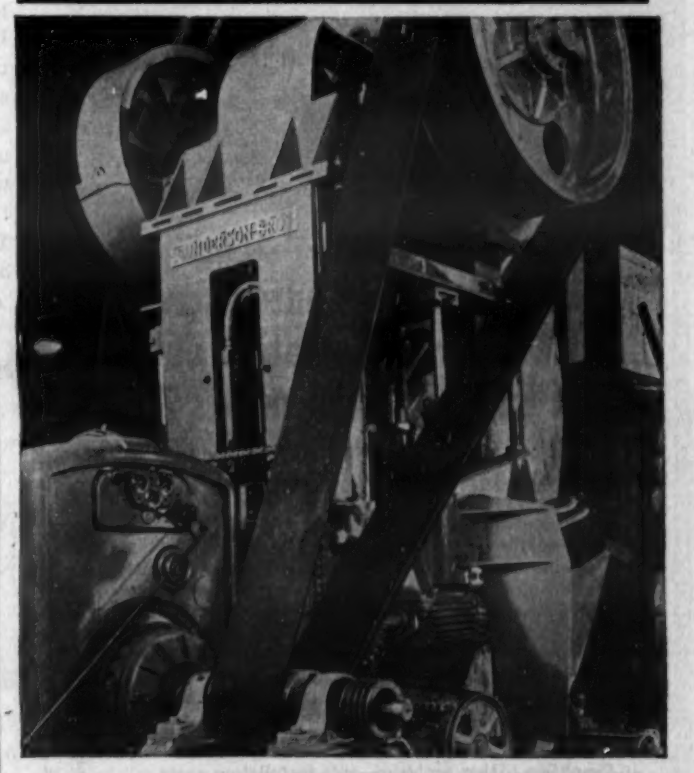
NEW! Clippard 3-Way Miniature Air Valve MAV-3

One of the hundreds of time and work saving uses for the *new* CLIPPARD Miniature 3-Way Normally Closed Air Valve is shown above. Jig is constructed so that a force of 75 lbs. is exerted on work by a 1" air cylinder (operating at 100 psi) when manual push-button is pressed. Stem travel of new MAV-3 Valve is 1/16" with overtravel of 1/32". Valve will handle up to 150 psi. Roller Cam-follower Head and a complete line of miniature Air Cylinders, Manifolds, Fittings and Accessories also available for that new automatic, or semi-automatic project you are now developing. Write, today, for details, catalogue sheet and prices.

Clippard INSTRUMENT LABORATORY, INC.
7390 Colerain Road, Cincinnati 24, Ohio

Manufacturers of R. F. Coils, Electronic Equipment, Miniature Pneumatic Devices

▲ For more details circle NED-248 K5 on enclosed inquiry slip ▲

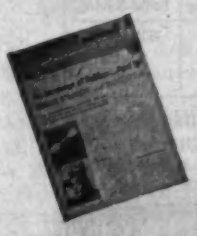


New multi-ribbed neoprene belt gives high drive capacity... resists heat, oil, abrasion

Good grip and positive tracking are assured with this new transmission belt of neoprene, Du Pont's chemical rubber. V ribs prevent it from slipping . . . give the belt up to 50% increase in drive capacity over a multiple V-belt system of comparable width and eliminate matching problem.

The new belt wears evenly and maintains constant speed ratios despite varying loads. Sturdy neoprene gives it excellent resistance to abrasion, weathering, heat, grease and oil. One of these belts has already given a year's perfect service driving a stone crusher where resistance to shock loads, heat and abrasion is essential.

This new belt helps reduce belt and sheave inventories through its unusual design. Thanks to neoprene, it provides *extra-long service life* . . . keeps maintenance and replacement costs low. . . . Be sure to ask your rubber-goods supplier about the many neoprene products now available.



FREE! THE NEOPRENE NOTEBOOK

Every issue describes new products, unusual applications of neoprene . . . shows how neoprene cuts maintenance costs. Mail reader's service card to get on the mailing list. E. I. du Pont de Nemours & Co. (Inc.), Elastomers Division NE-10, Wilmington 98, Delaware.

NEOPRENE

The rubber made by Du Pont since 1932

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

▲ For more details circle NED-249 K5 on enclosed inquiry slip ▲

Shown is Uplifter loading highway truck.

Revolvator Uplifters: 1000 lb. and 2000 lb. capacity. Also dual capacity hand-operated models.

YOU BENEFIT...

by Over 50 Years of experience.

Revolvator Uplifter Portable Elevators. Multiple use, multiple purpose Revolvator Uplifters, products of 50 years of engineering know-how, solve handling problems throughout all industry. Ideal for shop usage, Revolvator Uplifters also speed handling in the shipping department with equal efficiency. The Uplifter is ideal when no shipping dock is available. Electrically-powered Uplifter portable elevators are available in either "plug-in" or battery operated models. Today write for full information.

REVOLVATOR CO.
8732 Tonnele Ave., North Bergen, New Jersey

▲ For more details circle NED-250 K5 on enclosed inquiry slip ▲

NEW! 'Sexauer' Monel Self-Locking bibb screw – 10 sizes do the work of 37!

NEW! 'Sexauer' Easy-Tite faucet washer with Fiberglas reinforcing

This nylon plug locks the screw *automatically!*

NEW! Amazing, patented screw and washer combination cuts faucet washer replacements 75%

—with each leak eliminated, you reduce water and fuel bills up to $28.80 quarterly

Most faucet washer failures are caused by wrong length screws. 'Sexauer' Self-Locking screws* and Easy-Tite washers* – used together – cut costly washer replacements 75%! You save up to $28.80 quarterly in water and fuel alone with each leak stopped. Here's how...

A screw *too short* for the tapping distorts and splits the washer when tightened; the washer works loose, is torn to shreds. If *too long*, it can't grip the washer; this ruins the washer and causes hammering in the water line.

Simplifies fitting problem—cuts installation costs

'Sexauer' Self-Locking screws eliminate the problem of misfit screws. They lock *automatically* at the required depth as the nylon plug is compressed in the faucet thread. The washer is not distorted, is held firmly.

You can re-use Self-Locking bibb screws repeatedly. Made of Monel, they resist corrosion, never rust; heads won't twist off, screw driver will not distort the slot.

Self-Locking screws save time spent in fitting the proper length – 10 sizes do the work of 37! Used with new, Fiberglas-reinforced 'Sexauer' Easy-Tites, they cut washer replacements 75%, fixtures last longer. Easy-Tites resist closing squeeze and excessively hot water, outlast ordinary washers 6 to 1!

Water and fuel savings

One dripping faucet wastes 8,000 gals. of water yearly. A pinhole size stream increases waste to 8,000 gals. in a *single month!* Here is what you save *quarterly* in stopping just *one* pinhole leak on a hot water faucet:

Fuel Saving		Water Saving	Total Saving
Oil (198 gals.)	$22.77	$6.03	$28.80
Coal (2,469 lbs.)	22.22	6.03	28.25
Gas (21,103 cu. ft.)	21.20	6.03	27.23

Save water, fuel and labor costs; conserve costly fixtures by cutting washer replacements 75%! Use *new* 'Sexauer' Self-Locking screws and Easy-Tite faucet washers. *You save every time you do!*

WRITE FOR CATALOG. New 'Sexauer' Self-Locking screws and Easy-Tite washers are just part of the line of over 3,000 'Sexauer' Triple-Wear plumbing repair parts and patented precision tools. Send for our new, 126-page Catalog H. *Write today!*

*Reg. U. S. Pat. Off

J. A. SEXAUER MANUFACTURING CO., INC. Dept. AU-105
2503-05 Third Avenue, New York 51, N. Y.

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle NED-251 K5 on enclosed inquiry slip ▲

MOTOR SPEED CONTROL

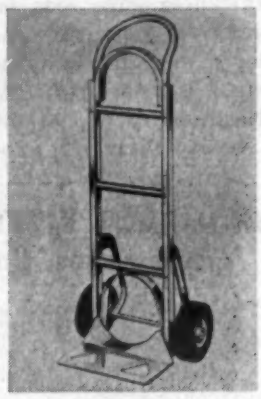
delivers automatic stepless control

Dynamic braking, reversing and other standard features are available in line of direct current motor speed control. Stepless motor speed control from dead stop to above base speed is provided. Motor speed is set by the operator and remains constant within 2 per cent regardless of line and load variations. Speed sensing element is a Regohm high gain, finger type regulator. Illustrated is 1/15-hp control. Larger units will be available. Made by **Electric Regulator Corp.**, Dept. N, 314 Pearl St., Norwalk, Conn.

▲ For more details circle NED-252 K5 on enclosed inquiry slip ▲

MAGNESIUM HAND TRUCK

with 6 or 8-in. diameter wheels



Weighing one-third less than comparable steel model, Load Floater bolted magnesium hand truck is particularly suited for use on delivery vehicles. Unit has 45½-in. loading height, 7 x 14 in. beveled nose plate and curved offset handle. Built-in stair climbers facilitate moving truck up and down stairs. Model MT1 has 8 x 2.50-in. punctureproof tires for use on rough or soft surface, while model MT2 has 6 x 2-in. tires for use on smooth surfaces. Made by **Milwaukee Truck Co.**, Dept. NED, 250 N. Twelfth St., Milwaukee 3, Wis.

▲ For more details circle NED-253 K5 on enclosed inquiry slip ▲

HYDRAULIC SYSTEM FILTER

handles up to 75 gpm

Designed for hydraulic systems of large high-speed machine tools, this No. 56670 filter will trap micronic size particles in fluids under 1000-psi operating pressures. Unit can handle flow rates up to 75 gpm. Made of resin-impregnated paper, filter element is easily replaced by removing snap ring holding the case cover in place. Steel case contains O-ring seal in its head. Connections at both ends are 1½ in. Made by **Purolator Products, Inc.**, Dept. AF, Rahway, N. J.

▲ For more details circle NED-254 K5 on enclosed inquiry slip ▲

Export Dept: Bessemer Bldg., Pittsburgh, Pa.

▲ For more details circle NED-255 K5 on enclosed inquiry slip ▲

STOW flexible shaft machines

your best buy because they serve your customers better

Versatile ... choice of operating speeds ... specially designed to provide *highest efficiency!* Constant speed and other variable speed models also available.

For over 75 years, STOW FLEXIBLE SHAFT MACHINES have been famous for long trouble-free performance.

STOW

Don't delay—write *today* for your free copy of CATALOG #51.

STOW MANUFACTURING CO. 26 Shear St., Binghamton, N.Y.

▲ For more details circle NED-256 K5 on enclosed inquiry slip ▲

there's almost no end of applications for... Abart SPEED REDUCERS

CONVEYORS
STOKERS • DISHWASHERS • FANS • BLOWERS
COMPRESSORS • AGITATORS • MIXERS
SPRAYERS • TURNTABLES • ELEVATORS
HOISTS • ESCALATORS
ROTARY KILNS • GRINDERS
CRUSHERS • LINE SHAFTS
MACHINE TOOLS
ORE ROASTERS
WATER SCREWS
CALENDERS

COMPACT • EFFICIENT
LONG LASTING • TROUBLE FREE

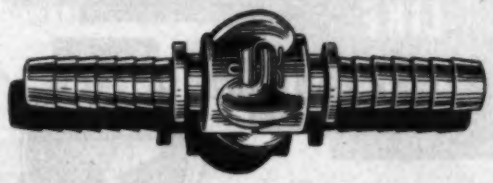
Abart Speed Reducers are available in over 75 types and sizes—spur, worm, and combination—ratings from 1.50 to 168 hp., with ratios up to 10,000 to 1. Specials to order.

Send for free data-packed, pocket-size Abart Catalog.

ABART GEAR and MACHINE CO.
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears and Speed Reducers • *Bishop 2-2524*

▲ For more details circle NED-257 K5 on enclosed inquiry slip ▲

"AIR KING"



QUICK-ACTING, UNIVERSAL TYPE HOSE COUPLING

A strong, durable coupling for quick, tight connections on field or factory air hose. Plain design—no parts to get out of order or clogged with dirt. Made in hose ends and male and female threaded pipe ends. Completely interchangeable. Patented safety locking device is proof against vibration and rough handling. Malleable iron (rust-proofed) or bronze.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

▲ For more details circle NED-258 K5 on enclosed inquiry slip ▲

Here's something really new . . .

THE ROCKWOOD TOP ENTRY BALL VALVE

Three unique features make this valve a wonder-worker!

Fast, Low-Cost Change in Direction of Flow. Removal of the body cap permits reversing the cage assembly to change direction of flow. You can change the direction of flow, change seat material, and clean the valves thoroughly and quickly without removing the valve from the line.

Interchangeability of seat material to meet your operating requirements without removing valve from line. Seat can be furnished in Buna-N, Neoprene, Kel-F, Teflon, and Nylon.

New Stem Design, allows the handle to be placed in any of eight positions. Giving you greater convenience in installation and operation.

Made of bronze, the Rockwood Top Entry Ball Valve is available both with sweat ends and screw ends, in sizes ½", ¾" and 1". Ideal for handling oxygen and hazardous liquids as well as water, oil and gas. Carries 300 lbs. per square inch on water, oil and gas and 400 lbs. per square inch on LP gas. Write for complete facts on these unique full round flow valves.

ROCKWOOD BALL VALVES

ROCKWOOD SPRINKLER COMPANY, 845 Harlow Street
Worcester 5, Massachusetts

▲ For more details circle NED-259 K5 on enclosed inquiry slip ▲

. . . make every step a safe step

BLAW-KNOX ELECTROFORGED® STEEL GRATING and STAIR TREADS

On stair treads, walkways, catwalks, platforms and floors—both indoors and outdoors—you can provide safe walking conditions. For Blaw-Knox Electroforged Steel Grating brings you these exclusive features:

1. rigid one-piece construction—easy to install
2. non-slip twisted crossbar—for safe footing
3. three types of bearing bars
   - square bars—for smoothest walking surface
   - knurled bars (Furro-Grip)—for extra safety plus relatively smooth walking surface
   - serrated bars—for maximum safety under extremely hazardous skid conditions
4. No sharp corners to clog—self-cleaning
5. all surfaces accessible—easy to paint
6. maximum open area—for light and ventilation

Write for your copy of new Bulletin No. 2486—or send dimensional sketch for quotation.

BLAW-KNOX

BLAW-KNOX COMPANY
BLAW-KNOX EQUIPMENT DIVISION
Pittsburgh 38, Pennsylvania

GRATING APPLICATIONS: floors • platforms • walkways • catwalks • stair treads • fan guards • shelving • and many other uses, both outdoors and indoors, for versatile steel grating.

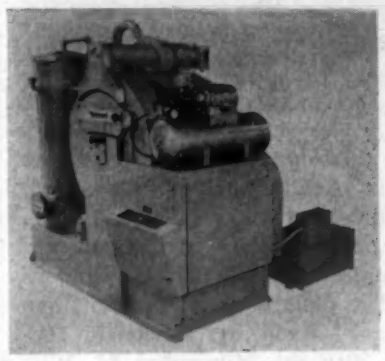
▲ For more details circle NED-260 K5 on enclosed inquiry slip ▲

HUB LOCKING RINGS grip by wedging action

Gears, pulleys and other hub-type parts are fastened onto shafts without the need for splines or keyways by the Grip-spring, an assembly which consists of two tapered concentric rings. Devices are placed between hub and shaft as shown. Outer ring expands and inner ring contracts when end nut is tightened with wrench. Maximum torque is transmitted because full strength of both hub and shaft is utilized. Since clearances are removed in the assembly, relative motion, backlash play and hammering are eliminated. Air and liquids cannot enter the assembly because hub is hermetically sealed to the shaft. Made by **U. S. Automatic Corp.**, Dept. BD, 1115 Franklin St., Amherst, O.

▲ For more details circle NED-261 K5 on enclosed inquiry slip ▲

AIR COMPRESSOR delivers up to 175 psi pressure



This piston type air compressor is designed for continuous operation while delivering up to 175 psi of oil-free air. Portability of unit permits it to be used where air is needed, and oil-free air feature adapts it to all types of pneumatic tools and control system. Graphite or carbon piston rings eliminate need for oil to lubricate cylinder walls. Motor and compressor are direct-coupled and each cylinder is equipped with safety overload valve. Compressors are rated at 35, 75 and 175 psi and from ¼ to ¾ hp. Unit is shown mounted on Mercury dry cleaning machine to which it supplies air to operate all valves and controls. Made by **Bell & Gossett Co.**, 8202 N. Austin Ave., Morton Grove, Ill.

▲ For more details circle NED-262 K5 on enclosed inquiry slip ▲

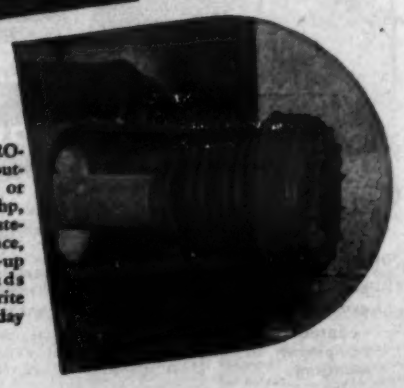
Flexible Electrical Insulation

Technical data sheets dealing with coated products, varnishes and plastic products which comprise the Irvington line of flexible electrical insulation materials are combined with useful charts and conversion tbales in 1955 general catalog. Supplied in loose-leaf binder, catalog can be kept up to date with latest data sheets. Available only by writing on company letterhead to Minnesota Mining & Mfg. Co., Irvington Varnish & Insulator Div., Irvington, N. J.

▲ For more details circle NED-263 K5 on enclosed inquiry slip ▲

TWIN DISC

Fluid Drives for heavy load pick-up



Slip a Twin Disc HYDRO-SHEAVE® Drive on the output shaft of your motors or engines from ¾ to 50 hp, and you'll *reduce* maintenance, *improve* performance, through *cushioned* pick-up of heavy driven loads through *fluid* drive. Write Twin Disc, Dept. DS, today for Bulletin 145-B.

TWIN DISC

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin

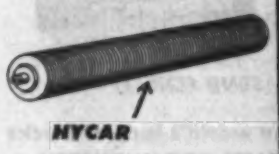
BRANCHES • CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

▲ For more details circle NED-264 K5 on enclosed inquiry slip ▲

Another development using

B. F. Goodrich Chemical *raw materials*

Four o'clock ideas in the five o'clock mail



Roller made by Amsco Rubber Co. for the Hycar Corp., Chicago, Ill. B. F. Goodrich Chemical Co. supplies only the Hycar rubber.

IT'S four p.m. in your office . . . the phone rings. It's a report you'd like to get into the hands of 300 distributors first thing in the morning. Can you do it?

You can, and Hycar helps, with the efficient new duplicator above. In an hour you can turn an idea into a direct mail campaign, complete with copy and illustrations in color. Hairline register and positive feed are achieved with a spirally-grooved roll made from Hycar American rubber.

The designer specified Hycar because it keeps its shape and flexibility, resists wear, abrasion, and duplicating fluid. Hycar also resists lubricants and chemicals, maintains its unique properties over a wide range of temperatures.

Many parts and products owe their success to the exceptional qualities of Hycar. For complete information, write Dept. CH-5, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Co.

Hycar American Rubber

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

▲ For more details circle NED-265 K5 on enclosed inquiry slip ▲

PIPE 1/8" thru 30"

For Every Need

"FASTER from FOSTER"

TESTED AND STRUCTURAL

SPIRAL WELD
SEAMLESS
ELECTRIC WELD
LAP WELD
CONTINUOUS
BUTT WELD

FOSTER Specializes In STEEL PIPE

Call us when you need pipe — you'll appreciate the fast, dependable convenience of buying from pipe specialists. We also maintain complete Shop Facilities for every type of fabrication work.

PROMPT SHIPMENTS From Our COMPLETE WAREHOUSE STOCKS

Send for Stock Lists and Catalog NE-10

RAILS - TRACK EQUIPMENT - PIPE - PILING

L. B. FOSTER CO.

PITTSBURGH 30, PA. • NEW YORK 7, N. Y. • CHICAGO 4, ILL.
ATLANTA 3, GA. • HOUSTON 2, TEX. • LOS ANGELES 5, CAL.

▲ For more details circle NED-266 K5 on enclosed inquiry slip ▲

CONTROL MAINTENANCE COSTS *by:*

1. Reducing emergency work
2. Reducing down-time
3. Scheduling man-hours

You get better maintenance control with planned Maintenance Management. Here is an effective system for planning . . . performing and controlling your maintenance program. Illustrated in flow-chart form, you will readily see the cost-saving advantages of a maintenance system that schedules man-hours . . . eliminates preventable breakdowns . . . controls all maintenance operations. Send today for this detailed 8-page booklet, and streamline your maintenance operation at the lowest clerical and equipment cost possible.

Remington Rand Division of Sperry Rand Corporation
Room 2052, 315 Fourth Ave., New York 10

Kindly send your free booklet "Assured Equipment Productivity Through Maintenance Management" —X1383

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your buying guide to the world's largest stocks of ELECTRONIC SUPPLIES FOR INDUSTRY

Here's how to simplify and speed *all* your purchasing of electronic supplies and equipment: send your orders to us for fast shipment from the world's largest stocks of electron tubes (all types and makes), transistors, test instruments, audio equipment, electronic parts (transformers, capacitors, controls, etc.). Our expert Industrial supply service saves you time, effort and money. Send today for your FREE 1956 ALLIED Catalog—the *complete* Buying Guide to the world's largest stocks of quality Electronic Supplies for Industrial use.

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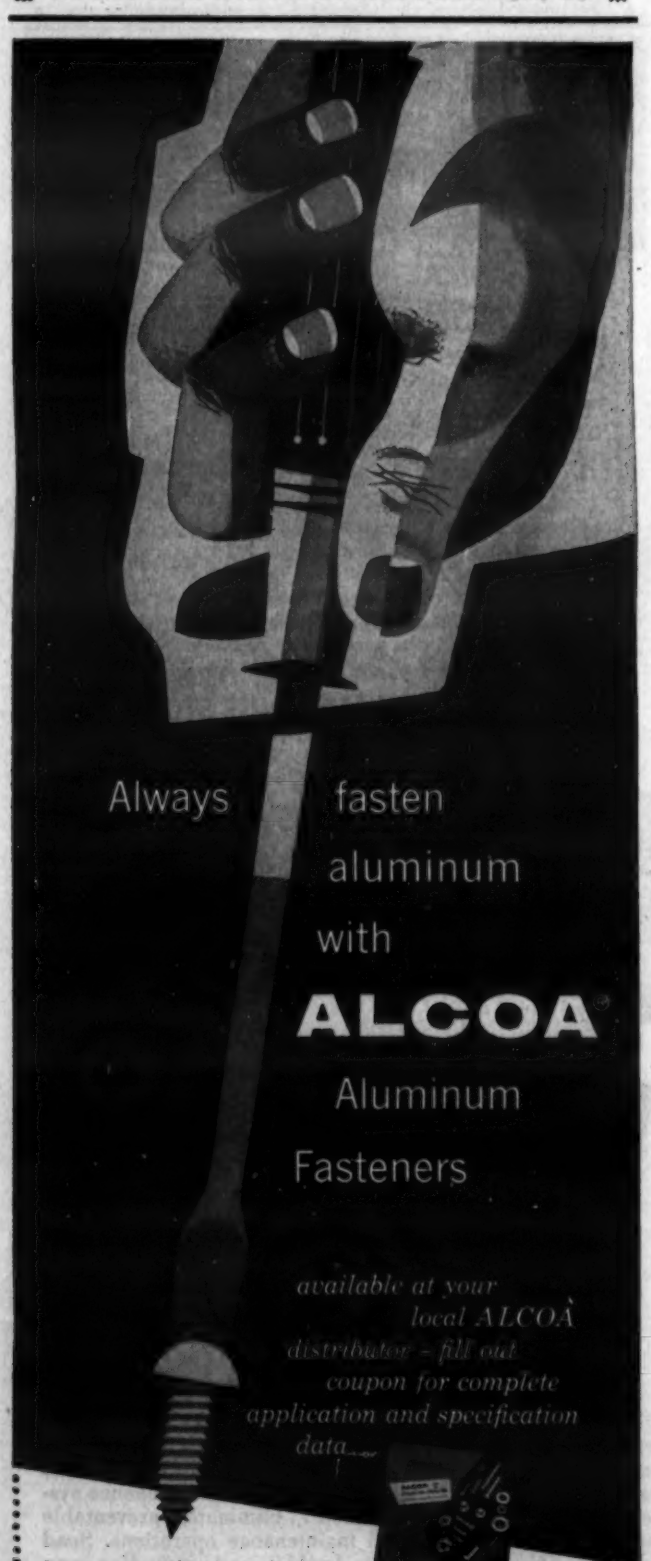


ALUMINUM COMPANY OF AMERICA
2245-K Alcoa Bldg., Pittsburgh 19, Pa.

Gentlemen: Please send complete specification data and samples of your aluminum fasteners.

Name_____

Title_____

Company_____

Address_____

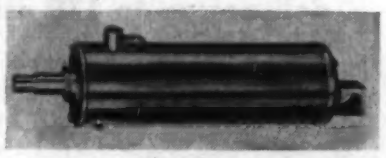
▲ For more details circle NED-269 K5 on enclosed inquiry slip ▲

HYDRAULIC LIFT TRUCK
for use with double-face pallets

Overload protection valve, interchangeable forks in lengths from 24 to 48 in., "no-drop" handle which stays in place in any position and grip release on handle for lowering control are features of the model 4M-20 Turnabout hydraulic lift truck. The 4000-lb capacity unit is designed for double-face pallets, but will also handle other types. The 10 x 2½-in. front wheels have Timken roller bearings, while the 3¼ x 2-in. rear wheels have hardened steel ball bearing races. Lowered height is 3¼ in. Made by **Rack Hydraulic Equipment Corp.**, 168 Sixth St., Connellsville, Pa.

▲ For more details circle NED-270 K5 on enclosed inquiry slip ▲

HYDRAULIC CYLINDERS
in capacities up to 36 tons



Line of hydraulic cylinders made of heavy - wall, seamless steel tubing bored and honed to mirror finish includes capacities up to 36 tons at working pressures from 1000 to 1500 psi. Available bore sizes are 5, 6, 7 and 8 in. Heavy-duty cast iron pistons and rings with V-type packing and easily adjusted glands are standard features. Single or double-acting cylinders are offered with threaded, plain or pineye rod fittings and cylinder mountings. Made by **Wisconsin Hydraulics, Inc.**, 3166 N. 30th St., Milwaukee 16, Wis.

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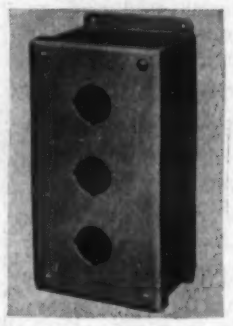
PUSHBUTTON ENCLOSURES
oil tight units made in 10 sizes



Fabricated from 14-gage steel, these oil-tight pushbutton enclosures are offered in sizes for 1, 2, 3, 4, 6, 9, 12, 16 and 25 control units. Cover with sponge neoprene gasket is fastened to box by four nickel-plated captivated screws which thread into closed tapped holes located in box flange. It has a hinge which permits it to be removed or swung open for wiring of control units. Button openings are on 2¼-in. centers. External mounting feet can be used in any position, vertical or horizontal. Finish is gray hammertone baked enamel over phosphatized surface. Made by **Hoffman Engineering Corp.**, 1221 Tyler St., Anoka, Minn.

▲ For more details circle NED-272 K5 on enclosed inquiry slip ▲

If Hurricane Hazel or her sisters strike again—or if your plant is flooded by Old Man River—just hose off the mess and apply Spradri.

Spradri stops rust instantly on tools, machinery, precision instruments, etc. Its fine mist penetrates every pore and crevice, without dismantling.

Spradri also reactivates electrical or electronic equipment in a few minutes—also without dismantling.

If water or moisture is one of your hazards, Spradri is worth its weight in gold. Send $2.95 for a sample 12 oz. Aerosol can (postage allowed) and test it for yourself. Or write for Bulletin 10A

SPRADRI COMPANY
(Division of Perfecting Service Co.)
334 Atando Ave. Charlotte 6, N. C.

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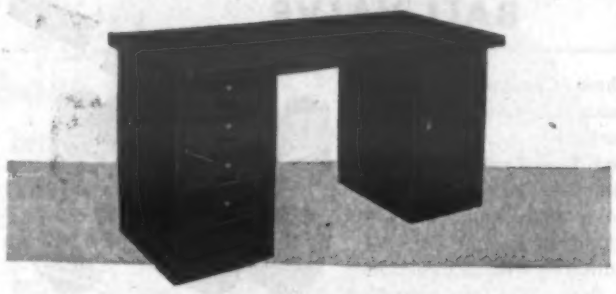
specify standard



HALLOWELL

UNIT WORK BENCHES

HALLOWELL FEATURES

2 lengths, 2 widths, 2 heights—all standard

4 top materials—steel, Presdwood on steel, ShopTop, laminated wood

Plenty of drawer and cabinet space, functional design

Use them as individual units or as continuous benches of any length

Standard units with *standard* accessories permit you to *custom build* Hallowell Unit Work Benches to fit your requirements. Stocked by leading shop equipment dealers. Write for literature. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

HALLOWELL SHOP EQUIPMENT DIVISION SPS JENKINTOWN PENNSYLVANIA

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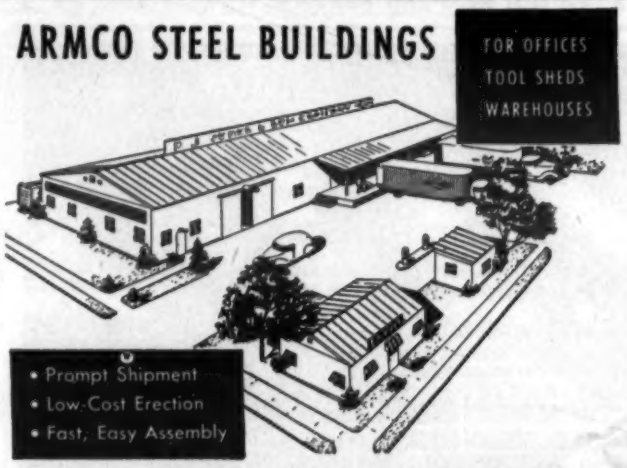
ARMCO STEEL BUILDINGS



Armco Steel Buildings meet practically all business and industrial needs. Dependable, attractive, fire- and weather-resistant. Sizes range from 4' to 40' in clear-span widths (use multiple-span buildings for greater widths), almost any length. Easily enlarged or quickly dismantled. Used by industry for over 20 years. Write for data.

ARMCO DRAINAGE & METAL PRODUCTS, INC.
3555 Curtis Street, Middletown, Ohio

ARMCO®

WRITE FOR THE COMPLETE MONEY-SAVING STORY

▲ For more details circle NED-275 K5 on enclosed inquiry slip ▲

Speed your 1955 Traffic
with a 29 year old idea

Above is one of seven Nutting Towline Systems currently saving 25% on handling costs for Consolidated Freightways, Inc.

Nutting has been designing trucks for use with overhead or under-floor conveyors since 1926 and now provides 13 standard models with 5 types of tow mechanisms. Whether you have or are considering an overhead or under-floor system, whether your loads are 300 or 3,000 lbs., Nutting has the trucks for the perfect solution to your materials handling problem. Write for Bulletin 54-TL or call your Nutting Sales Engineer—he's listed under "Casters" or "Trucks" in your classified directory.

Export Sales Representative: School International, Inc. 4261 North Lincoln Ave., Chicago 18, Ill.

Nutting Since 1891

NUTTING TRUCK & CASTER CO.
3110 DIVISION ST., FARIBAULT, MINN.

▲ For more details circle NED-276 K5 on enclosed inquiry slip ▲

MARSHALLTOWN

Capacities from 18 Gauge to ½" Cuts any SIZE . . . any SHAPE

America's finest for every cutting job—straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

Built for extra heavy duty use. High grade tool steel cutters.

Write today for details and prices.

MARSHALLTOWN MFG. CO., Marshalltown 2, Iowa

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NEW-REVOLUTIONARY STEAM TRAP

defeats wear-corrosion!

This NEW Sarco Thermodynamic Steam Trap virtually eliminates maintenance. Stainless steel throughout. Only one moving part.

No valve-closing mechanisms to wear or stick. Not affected by superheat, water-hammer, vibration, corrosive condensate. No critical clearances to choke. No gaskets to leak. Same trap for all loads and pressures 10-600 psi.

Write for bulletin 255-44 or a TD trap for a 60-day trial installation. Specify size and application.

SARCO COMPANY, INC.
EMPIRE STATE BLDG., N.Y. 1, N.Y.

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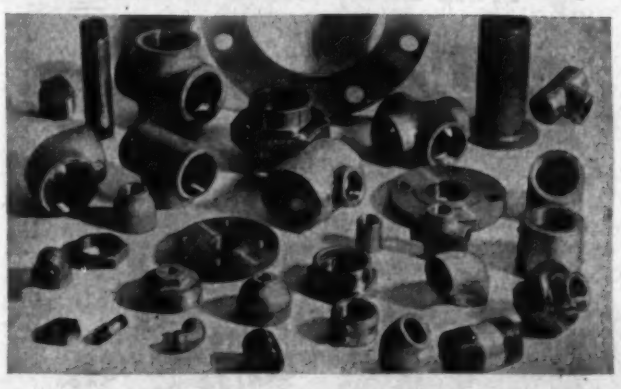
EVERY TYPE to fit every problem



INCO-CAST Fittings
CORROSION-RESISTING
Monel,® Nickel and Inconel®

- Resist most corrosives
- Withstand high and sub-zero temperatures
- Strong, tough, sound
- Protect product purity
- Pressure-tested
- Economical in cost
- Controlled alloy composition
- All standard types and sizes in threaded and welding fittings
- Fast service on rated orders to all points from conveniently located distributor stocks
- Special shapes and sizes made to order

WRITE for handy price list catalog. Contains full information, and will be sent you promptly. No obligation.

The International Nickel Company, Inc.
67 Wall Street, New York 5, N. Y.

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HINGED FRAME TAKE-UP
babbitted, ball or roller bearings

Removal of three bolts permits the one-piece hinged top of the DS take-up to swing upward for easy access to the bearing block and adjusting screw. Improved model is interchangeable with previous designs for use on such equipment as apron, belt, chain, drag, flight and slat conveyors. Arch frame design adds strength to the end brackets. Babbitted, ball or roller bearings are available. Other features are a rigid channel base and adjusting screw that never projects beyond the end of the frame. Made by **Link-Belt Co.**, Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

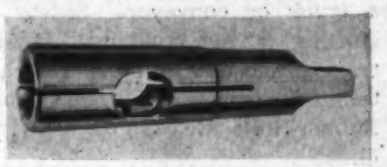
▲ For more details circle NED-280 K5 on enclosed inquiry slip ▲

MOTOR CONTROL RELAY
handles up to 20-amp 230-v loads

Efficient control of industrial across-the-line motor starting and of heating and refrigeration equipment is provided by this UL-approved model 9191 relay. Of single-pole single-throw normally-open type, it has motor load ratings of 1½ hp at 115 v ac and 3 hp at 230 v ac. Contact load ratings are 20 amp on either 115 or 230 v ac. Equivalent relays in two or three-pole models are also available from **Leach Corp.**, Leach Relay Div., Dept. NED, 5915 Avalon Blvd., Los Angeles 3, Calif.

▲ For more details circle NED-281 K5 on enclosed inquiry slip ▲

CENTER DRILL DRIVER
for precision work on machine tools



Of one-piece design, this style B center drill driver will accommodate combined center drills and countersinks of the regular or bell type. It permits accurate center drilling in centering machines, drill presses, boring mills, lathes, milling machines and automatic screw machines. Offset splined section furnishes positive drive in the flutes of the drill and also protects the cutting edges. Concentricity of the bore and shank are held within 0.002-in. Driver is alloy steel, hardened to obtain optimum combination of properties for spring collet action and high torsional strength. Made by **Scully-Jones & Co.**, 1952 S. Rockwell St., Chicago 8, Ill.

▲ For more details circle NED-282 K5 on enclosed inquiry slip ▲

SAFE STORAGE

IPCO SAFETY STORAGE BINS

FOR EXCELSIOR, PAINT, RAGS AND OTHER INFLAMMABLE MATERIALS

3 SIZES

For shipping rooms and other plant areas where excelsior, paper, rags, paint and other combustibles are used. Sturdily manufactured of heavy gauge galvanized iron with reinforced angle corners. Fitted with fusible link so that cover closes automatically in case of fire.

Meets all fire regulations of Insurance Companies, State and Municipal authorities.

WRITE FOR BULLETIN NO. 63

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

▲ For more details circle NED-283 K5 on enclosed inquiry slip ▲

BREEZE BUILDS BETTER BELLOWS

Breeze bellows are job-engineered for tough applications where ordinary formed bellows cannot meet the requirements. Custom-building permits more convolutions per inch for controlled flexibility; extra strength is *precision-welded* into each diaphragm. Spring rate is exact.

Where necessary, Breeze can solve difficult vibration problems through special design, using plate-to-plate construction of proper metal and varying thickness.

Breeze *valve-sealing bellows* provide a tight packless seal with required flexibility. Breeze *instrument bellows* meet pressure sensing needs from vacuum to 2000 psi. As *expansion joints* and *flexible connectors* they can withstand temperatures to 1400° F. All are job-engineered.

We can also provide stainless steel *formed* bellows for operations where custom-welded bellows are not required. Our engineers invite your inquiries.

BREEZE CORPORATIONS, INC.
700 Liberty Avenue, Union, New Jersey

▲ For more details circle NED-284 K5 on enclosed inquiry slip ▲

WHEN THE JOB IS RUGGED

Goodyear Industrial Tires Deliver the Goods

Major reason you'll find more and more Goodyear Industrial Tires specified as original equipment—and more of them specified on reorders—is because Goodyears are job-fitted for better performance.

If your job causes tires to cut or chip too fast, our skilled technical experts or your Goodyear dealer will recommend the rugged Red Seal compound. On oily surfaces, they'll suggest the oil-resistant Yellow Seal compound.

If your trucks need extra traction, we will recommend the All-Weather Tread from our four Goodyear-developed treads.

In short, Goodyear Industrial Tires do more than fit the truck—they fit the job. And the pay-off for you is longer tire life at lower cost. Check your Goodyear dealer for all the facts today or write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

SMOOTH-SOLID—for factory, warehouse and loading platform

GROOVE TREAD SOLID—built to take heavy punishment on big trucks

ALL-WEATHER TREAD—for ramps, wet surfaces and other extra-traction conditions

ALL-SERVICE TREAD XTRA CUSHION—built with compact lug design for fast, easy rolling with absolute smoothness and stability

Look for this sign; there's a Goodyear dealer near you.

USE THE RIGHT TIRE FOR THE JOB—BUY AND SPECIFY

GOODYEAR INDUSTRIAL TIRES

All-Service, All-Weather, Xtra Cushion—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-285 K5 on enclosed inquiry slip ▲

Can Veelos V-Belts
CUT VIBRATION
20% to 90% in your machines?

Machine vibration is usually caused by one or more of these five factors: bearings; motor; clutch; sheaves; v-belts. Frequently, v-belts alone are the major cause of vibration.

Actual performance on many different types of machine tools has proved that Veelos v-belts can reduce vibration 20% to 90%.

Here's why this is so . . .

Every Veelos belt is *perfectly balanced* throughout its entire length. Every Veelos link and stud is *absolutely uniform.* The *smooth, machine cut sides* and the *laminated construction* of the belt assure full, vibrationless power delivery.

These facts can be readily demonstrated with an electronic analyser. This analyser measures amplitude of vibration to as low as 2-millionths of an inch. A few minutes is all that is required to show you that Veelos runs smoother and creates less vibration than regular v-belts.

Drop us a line for a demonstration with the electronic analyser.

VEELOS THE LINK V-BELT

MANHEIM MANUFACTURING & BELTING CO.
650 Manheim St., Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

Veelos is known as Veelink outside the United States

▲ For more details circle NED-286 K5 on enclosed inquiry slip ▲

An Open AND Closed Case IN FAVOR OF

Drip Proof Frame . . . for standard installations.

Dust Proof Frame . . . totally-enclosed, fan-cooled to seal out harmful dust, grit or vapors.

Century Performance-Rated® MOTORS

Century's new *smaller* and *lighter* integral horsepower motors are available in your choice of drip-proof or totally-enclosed-fan-cooled frames.

In either case, you get the same Century engineering improvements, including 6-way Century insulation featuring tougher "mylar" slot insulation. When the application demands it, you can have your motors Performance-Rated to seal out dust, grit or vapors . . . simply by specifying the TEFC frame.

Whatever your application, you can get precisely the right motor size, speed, enclosure, mounting and torque characteristics with the help of Century Performance-Rating. For information and assistance, contact your nearby Century Sales Office or Authorized Distributor.

Performance-Rated® Motors 1/8 to 400 H. P.

CENTURY ELECTRIC COMPANY

1806 Pine Street • St. Louis 3, Missouri
Offices and Stock Points in Principal Cities 14

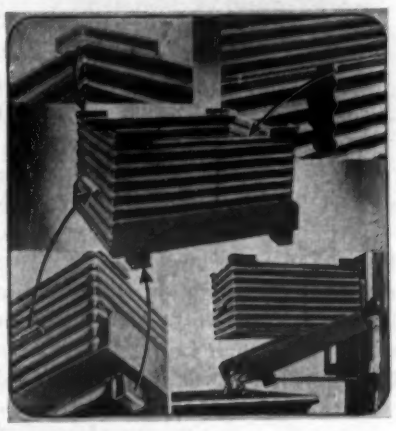
▲ For more details circle NED-287 K5 on enclosed inquiry slip ▲

OIL-HYDRAULIC POWER UNITS
for systems requiring up to 1000 psi

Line of oil-hydraulic pipeless power units is designed for wide range of light duty clamping, indexing and transfer operations in systems requiring up to 1000 psi pressures. The series T8 package consists of drive motor available in 1, 1½ and 2 hp ratings at 1800 rpm; and oil-hydraulic pump offered in rated deliveries of 2.2, 3.7 and 5.2 gpm; and a control circuit, all mounted on an 8-gal reservoir. Pumps and valves are directly connected to common manifold mounting pane, eliminating all external piping. Made by **Vickers Inc.,** 1456 Oakman Blvd., Detroit 32, Mich.

▲ For more details circle NED-288 K5 on enclosed inquiry slip ▲

MATERIALS HANDLING BOX
welded steel unit has drop bottom



This corrugated steel welded materials handling box with drop bottom is usable with either positioning stand or for controlled dumping by fork truck. When used on former, legs at bottom of box engage stand and drop bottom automatically opens to discharge materials into stand tray. When used with fork truck, reinforced box hanger engages the mast of the truck for controlled materials discharge into a truck or conveyor. Safety corners prevent box shifting during stacking. Boxes have four-way entrances and can be built from any gage steel to customer dimension and capacity specifications. Made by **Palmer-Shile Co.,** 16015 Fullerton St., Detroit 27, Mich.

▲ For more details circle NED-289 K5 on enclosed inquiry slip ▲

Radiation Measuring Equipment

Nuclear Instrument & Chemical Corp.—48-page illustrated catalog P contains data on a complete line of radiation measuring equipment for industrial and research applications. Described are scalers, count rate meters, portable instruments, Geiger counters, and porportional and scintillation counters. Included is a radiochemical price list for 144 different Carbon-14 labeled radioactive chemicals.

▲ For more details circle NED-290 K5 on enclosed inquiry slip ▲

READ BOTH AC AND DC with

TONG TEST Ammeters

Only Tong Test measures both alternating and direct current. Simply snap the tongs around electrical conductor for instant readings . . . only one scale to read at a time. Ranges up to 1000 amperes are quickly interchangeable, cannot burn out for there are no windings.

Lightweight, accurate, safe, dependable . . . Columbia Tong Test is available in five types to accommodate conductors up to 3⅞" diameter, or bus bars up to 4½" x ½".

COLUMBIA

COLUMBIA ELECTRIC MFG. CO. • Write for 8-page Catalog ND-400
4525 Hamilton Avenue Cleveland 14, Ohio

▲ For more details circle NED-291 K5 on enclosed inquiry slip ▲

FLEXIDYNE

THE DRY FLUID DRIVE

NEW! REVOLUTIONARY!

Handles difficult starting problems and gives a new kind of protection against shock and overloads. The dry flow-charge can be varied to give exact torque you need. When load reaches normal speed there is zero slip, giving 100% efficiency. Write for bulletin with detailed information on Flexidyne Drives and Flexidyne Couplings.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

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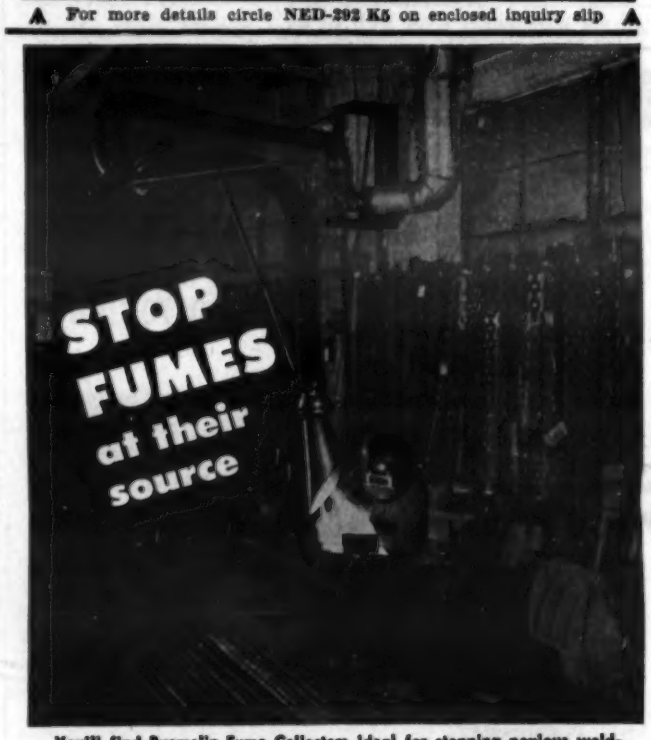

You'll find Ruemelin Fume Collectors ideal for stopping noxious welding fumes *at their source.* Counter-balanced inlet hood stays in working area, automatically. Improves working conditions . . . lessens fatigue . . . paves the way for increased plant production. Thousands in everyday service. Write for Fume Collector Bulletin No. 37E.

RUEMELIN MFG. CO.
3883 N. PALMER STREET MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

A 8409-1/9-A

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When we say longer, we mean

L-O-N-G-E-R

For a Longer Guarantee of Longer Service, Longer

Promet Engineered Bronze

BEARINGS-BUSHINGS WEARING PARTS

Guaranteed superior service or refund of purchase price upon return—the customer's opinion is final. Promet Bearings stay on the job, hours on end with never a doubt. They've got what it takes and can take it! Write for free literature and service data sheets. Send blueprints, specifications of operation and other data by recommendations and quotations. You are invited to discuss your bearing problems with our metallurgists, engineers and laboratory technicians.

THE American Crucible PRODUCTS CO.
"Bearing Specialists Since 1919"
1327 OBERLIN AVENUE LORAIN, OHIO, U. S. A.

▲ For more details circle NED-294 K5 on enclosed inquiry slip ▲

Completely Automatic
NEW KELLER
SERIES 92A
"Airfeedrill"
does work you'd expect only from a big machine tool

ADVANCES, drills, retracts, shuts off automatically at a touch of the air control valve.

SPEED, torque, feed rate, and travel accurately adjustable.

SENSING-TYPE rapid advance combines with torque control to permit peck drilling and skip drilling.

Send for Bulletin 92A

KELLER TOOL
DIVISION OF **GARDNER-DENVER**
GRAND HAVEN, MICH.

▲ For more details circle NED-295 K5 on enclosed inquiry slip ▲

REED DU-ALL CHAIN WRENCH

Turns Any Shape . . .

Works where an ordinary wrench won't!

This new REED wrench does everything a conventional pipe wrench will do, plus a great deal more. It gets into tight corners, close to baseboards or between parallel pipe lines and holds round, square or irregular shapes firmly, without "play" and without crushing. Its fast, ratchet action lets you turn either way from either side. You can tighten and "back-off" without taking the wrench from the pipe. 14", 18" and 24" lengths.

Ask your distributor or write for literature.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA • U. S. A.

▲ For more details circle NED-296 K5 on enclosed inquiry slip ▲

For light grinding and polishing

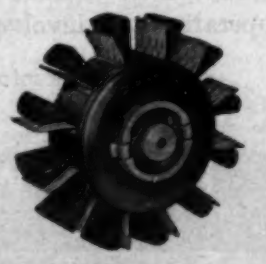
GRIND-O-FLEX

THE FLEXIBLE GRINDING WHEEL

This fast-cutting grinding wheel removes burrs, flash, tool marks from contoured parts without digging into the metal. Consists of hundreds of "leaves" of aluminum-oxide cloth sealed to a core. Attaches to your present power tools or any rotating spindle. No special equipment to buy. Wide range of grits. Safe and easy to use. Mount several wheels side by side for any required width. There's nothing like it.

For finishing complex contours

SAND-O-FLEX
BRUSH-BACKED ABRASIVE WHEELS



Use Sand-O-Flex for lighter and more intricate contour work on metals, plastics, wood, rubber, etc. Cannot gouge, "flat" or mar surfaces. Attaches to motor shaft or power tools. Available in four sizes from portable to heavy-duty production line models. Refill abrasive cartridges range from coarse to very fine for all types of finishing and polishing. Write for catalog and prices.

MERIT PRODUCTS, INC., 4023 Irving Place, Culver City, Calif.

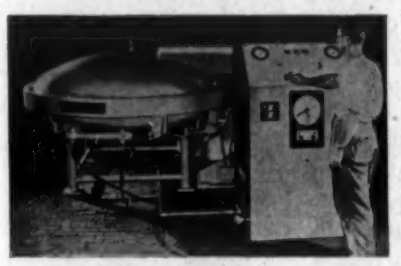
▲ For more details circle NED-297 K5 on enclosed inquiry slip ▲

PORTABLE RADIAL SAW
1½-hp unit cuts 3-1/16 in. deep

Two men can easily move this 169-lb portable electric radial saw designed to make every type of cut through all sizes of lumber used in home building or light construction work. Saw will operate on alternating or direct current and is rated 1½ hp with free speed of 5700 rpm. It has 3 1/16 in. depth of cut, 18-in. straight cutoff capacity and rip capacity to center of 48-in. panel. Blade diameter is 8¼ in. Saw comes with cross-cut blade, blade wrench, 3-wire cord, antikickback device and carrying handles. Accessories include set of four legs and sander-shaper kit. Made by **Skil Corp.,** 5027 Elston Ave., Chicago 30, Ill.

▲ For more details circle NED-298 K5 on enclosed inquiry slip ▲

AUTOMATIC AUTOCLAVES
all functions pushbutton operated



True pushbutton operation is featured by these autoclaves in which timer; heat, cycling, air, water and steam controls; and opening and closing mechanism are completely automatic. Unit maintains constant preset temperature during all cycles and keeps a written record of each complete cycle. Hydraulic operation raises, lowers and locks lid which has silicone rubber gasket. In case of power failure, manual controls are provided to allow removal of part under process. One man and a helper can operate a bank of up to eight autoclaves. Made by **Philips & Davies, Inc.,** Dept. N, Kenton, O.

▲ For more details circle NED-299 K5 on enclosed inquiry slip ▲

Screws & Bolts from Stock

Southern Screw Co.—32 pages crammed with data and specifications on an extensive line of fasteners comprise catalog MST-1. Announced is expanded warehouse service which now includes screw stocks in Dallas, Texas; North Bergen, N. J.; Chicago and Los Angeles. Fasteners described include machine and A & B tapping screws, Phillips and slotted screws, stove bolts and other types in steel, brass, silicon bronze, aluminum and stainless. As decorative finishes are listed blued steel, spartan gray, statuary bronze or antique copper and black oxidized. Rust resistant finishes offered include hot and electro galvanized, zinc plated, Parkerized, nickel plated, brass plated, and cadmium and chromium plated.

▲ For more details circle NED-300 K5 on enclosed inquiry slip ▲

Is old fashioned wheel-conveyor design making you buy more than you really need?

◀ New A-F LIVE RAIL can do most wheel-conveyor jobs as well or better —with less conveyor—thanks to advanced A-F design. Before you buy, check LIVE RAIL. We'll be glad to submit a competitive estimate on any wheel-conveying application. In many cases, we'll be low. Because we can often specify less conveyor—only as much as really need to do the job. Numerous rail combinations in various widths for portable or fixed set-ups.

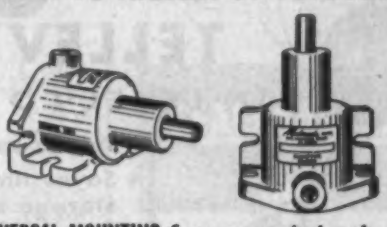
A-F A-F Conveyors

The Alvey-Ferguson Company, Dept. AA-10
Cincinnati 9, Ohio, and Azusa, Cal.
▶ Write for our new
LIVE RAIL BULLETIN today.

▲ For more details circle NED-301 K5 on enclosed inquiry slip ▲

Modernair
CLAMP-TYPE AIR CYLINDERS

Easiest to install or relocate!



UNIVERSAL MOUNTING for easy vertical or horizontal installation.

SLOTTED MOUNTING HOLES save installation, relocation time.

SPRING-RETURN TYPE CYLINDER operates from simple 3-way valve (MODERNAIR CRV or BV series recommended). Has ⅛" NPT port.

ECONOMICALLY PRICED, TOO!

	Price (f.o.b. factory)	
Bore Size	1" Stroke	2" Stroke
1⅛"	$ 8.50	$ 9.75
2"	16.00	19.00
3"	23.50	26.50

Write TODAY for Free Literature!

Modernair CORPORATION
Room F10, 400 PREDA ST., SAN LEANDRO, CALIF.
Member National Fluid Power Association 9

▲ For more details circle NED-302 K5 on enclosed inquiry slip ▲

For Best HIGH-SPEED Performance Use . . .

GENERAL

WIDE-BASE PNEUMATICS

They save time • money • labor. Give you cost-saving advantages at all speeds.

General has pioneered every important advance in the field!

You can trust GENERAL'S complete line for the exact design for every purpose.

- More load capacity at low or high speeds
- Cushion equipment and loads reducing breakage and spillage
- Save high cost floors and floor surfaces
- Slow, even wear for long service
- High flotation for easier rolling over soft ground
- Rolls easier, smoother over all surfaces.

Available separately or in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 35"—200 to 7890 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid

CASTER FORKS

Wide-Base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

Swivel

SEND FOR CATALOG DEPT. 4

The GENERAL TIRE & RUBBER CO. Akron, O.

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Fill Bins Accurately... and Automatically...

with an S-A

TELLEVEL

BIN LEVEL CONTROL

1-TYPICAL ARRANGEMENT FOR "TELLEVEL" WIRED FOR "NORMALLY-CLOSED" CIRCUIT.

2-RISING LEVEL OF MATERIAL TILTS FLOAT-BALL AND STOPS CONVEYOR.

- **Avoids spillage**
- **Saves time and storage space**

The S-A Tellevel automatically stops or starts feeding conveyors or elevators as the material level rises or falls . . . enabling you to accurately fill bins, tanks or hoppers to capacity without wasteful overflow. Available in normal, heavy-duty and explosion-proof models.

PRICED LOW AS $40.00 F.O.B. AURORA

IN STOCK FOR IMMEDIATE DELIVERY

STANDARD PRODUCTS DIVISION
STEPHEN S-ADAMSON MFG. CO.
12 Ridgeway Ave. Aurora, Illinois

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A Stockroom You Can Build Yourself!

SECTIONAL STACKBINS® give you the greatest flexibility and ease of installation ever devised for parts, tools, materials storage containers. You can set them up in minutes without tools! By combining bin sizes and number and size of openings, you get a storage system tailored to fit your particular needs. SECTIONAL STACKBINS give you maximum storage utility in minimum space. Available in 6 interstacking sizes.

For full information and prices, WRITE TODAY!

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1081 Main St., Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Ottawa

STACKBIN SYSTEM
"Stacked and Still Accessible"

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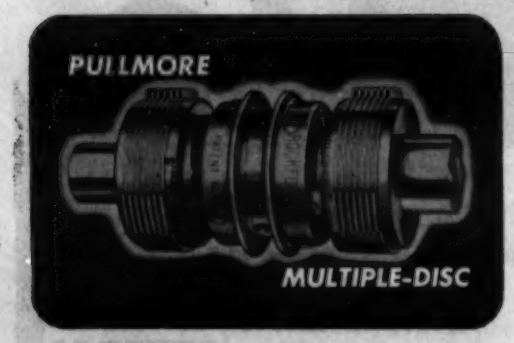
ROCKFORD



HIGH TORQUE LOW ENGAGING PRESSURE

• PULLMORE discs provide high capacity and efficient lever design enables light engaging pressure. Discs are accurately made from special clutch-disc materials and are tested for friction. Made in single and double types, for operation in oil or dry. PULLMORE clutches have capacities from 1 to 90 H.P. at 500 R.P.M. They handle loads of much greater than rated capacity, when operated at higher speeds.

Send for This Handy Bulletin
Shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications.

ROCKFORD CLUTCH DIVISION BORG-WARNER
▲ 312 Catherine Street, Rockford, Illinois, U.S.A. ▲

CLUTCHES

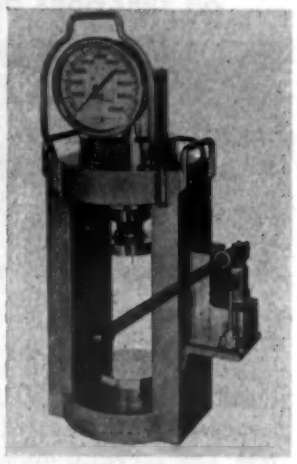
▲ For more details circle NED-306 K5 on enclosed inquiry slip ▲

CIRCULAR SAW GUARD
work seen through plastic shields

Any table model circular saw can be made safer with this gliding-action guard with ¼-in. thick clear Plexiglas shield. It is never necessary to remove guard during cutoff, ripping, dado or grooving work. Unit has exceptionally strong dual "anti-kick backs," as well as an adjustable splitter which adjusts to clear work when not in use. Breakproof shields operate separately or together. Mounted on table, floor or ceiling, installation is fast and simple for either tilting table or tilting arbor. Various sized models are available from **General Scientific Equipment Co.**, 2701 W. Huntingdon St., Philadelphia 32, Pa.

▲ For more details circle NED-307 K5 on enclosed inquiry slip ▲

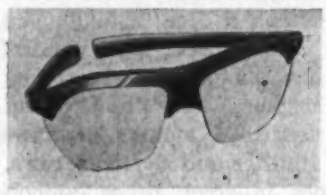
LABORATORY PRESS
develops 200,000-lb force



Two-speed hydraulic pump of this 200,000-lb capacity portable laboratory press makes it possible to approach work piece rapidly. On contact with work, pump automatically shifts to slow-speed, high-pressure operation. Features include self-aligning, movable upper platen, automatic ram return and instant load release. Press is accurate to within 1 per cent of gage load. Work opening is 8 x 14 in. Ram travels 1¼ in. with additional 2 in. of adjustable screw travel. Made by **Soiltest, Inc.**, 4713 W. North Ave., Chicago 39, Ill.

▲ For more details circle NED-308 K5 on enclosed inquiry slip ▲

SAFETY SPECTACLES
offered with choice of lenses



Plastic Club temples which fit almost any face are feature of Eye Savers Executive safety spectacles. They are offered with a choice of interchangeable shatterproof methacrylate lenses, all optically perfect. Types are clear for indoor hazardous areas, light green for average sunlight, medium green for bright sunlight and gold for night driving. They are light in weight and well balanced. Made by **Watchemoket Optical Co.**, Dept. N31, 232 W. Exchange St., Providence 3, R. I.

▲ For more details circle NED-309 K5 on enclosed inquiry slip ▲

HERE'S A TYPICAL HOLDING JOB

Jacobs RUBBER-FLEX COLLETS

HOW MANY MORE DO YOU HAVE?

Here the new Jacobs Model 96 Rubber-Flex Collet Chuck holds a machined part for inspection.

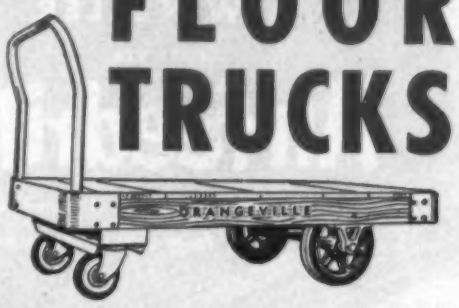
We don't yet know all the applications for this marvelous holding device. We *do* know it is the most accurate collet chuck in the world . . . that it holds any piece from 1/16" to 1⅜" in diameter using only 11 collets, and has a gripping power unmatched by any split steel collets.

What are your work holding jobs for Model 96? Get the details on this great chuck from your industrial distributor, or write The Jacobs Manufacturing Co., 2410 Jacobs Road, West Hartford 10, Conn. Ask for Bulletin 54-CC.

Jacobs CHUCKS

▲ For more details circle NED-310 K5 on enclosed inquiry slip ▲

FLOOR TRUCKS



"KEEP LOADS ALIVE"

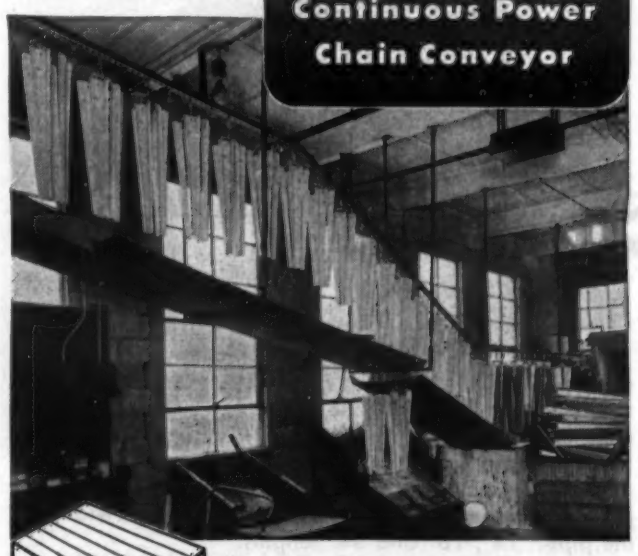
STANDARD SIZES & TYPES
SPECIAL DESIGNS
VARIOUS TYPE WHEELS:
IRON - RUBBER - PNEUMATIC
Write for catalog

ORANGEVILLE MFG. CO.
Orangeville 12, Pa.
"Since 1879"

FLOOR TRUCKS ORANGEVILLE

▲ For more details circle NED-311 K5 on enclosed inquiry slip ▲

Introducing **R-W "460"**
Continuous Power Chain Conveyor



a completely packaged conveyor for light loads!

Richards-Wilcox' new "460", the completely packaged conveyor, is especially adapted for handling jobs where the use of heavier installations is impractical. It combines unusual flexibility, versatility and safety with special economies due to lower load limits. And installation requires no special engineering . . . entire layout can be installed by plant personnel!

R-W "460" is shipped completely packaged from stock throughout the U. S. It is available up to 200 ft. maximum length *only*, with capacities of 8½ lbs. on 6 inch centers or 17 lbs. per lineal foot, and 200 lbs. draw bar pull. It is ideal as a supplementary conveyor unit in production lines and to help solve handling problems where the use of drying ovens, washers, paint sprayers, de-greasers and similar operations are involved.

75 YEARS of QUALITY and SERVICE by RICHARDS-WILCOX AURORA, ILLINOIS

For complete information write for descriptive catalog A-96.

Richards-Wilcox Mfg. Co.
MATERIALS HANDLING DIVISION
Branches in Principal Cities

435 W. THIRD STREET, AURORA, ILLINOIS
SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT • INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS

▲ For more details circle NED-312 K5 on enclosed inquiry slip ▲

DO YOU HAVE A PULLING PROBLEM?

Important information that will help save time, parts and tools on every job

Pulling and installing jobs are in many cases an unnecessary headache. Without proper tools, expensive parts and equipment are broken and machinery is down for long periods of time.

This is unnecessary for there are inexpensive and practical pulling tools to do every job quickly and safely. We can help you by suggesting the right tool for the right job and telling you how to do it easily.

Pullers as small as your hand or up to a 100 ton hydraulically operated tool are available to you in the OTC line. Here a 50 ton hydraulic ram is pulling a drawing gear on a paper shearing machine. Get the answers to your pulling problems by writing OWATONNA TOOL COMPANY, 436 Cedar St., Owatonna, Minn.

▲ For more details circle NED-313 K5 on enclosed inquiry slip ▲

Account For Corrosive Liquids

ALCOHOLS, VEGETABLE OILS, DEIONIZED WATER, ETC.,

with

Rockwell "316" Stainless Steel Meters

Be Sure of Your End Product

Want the finest degree of *quality control* in your formulations? Need accurate *cost controls* over liquid ingredients? Is *inventory* a problem? Are *losses* eating into your profits? Then turn to a basic accounting tool—*Rockwell liquid meters.* Get the accurate metered records you need to operate efficiently. Available in a wide variety of types, materials and sizes to suit every requirement. Our bulletins tell all. Write today.

YOU CAN RELY ON ROCKWELL

ROCKWELL MANUFACTURING COMPANY
DEPT. 112-K PITTSBURGH 8, PA.

▲ For more details circle NED-314 K5 on enclosed inquiry slip ▲

KEYNOTES

"Why didn't they seal it with easy-breaking KEY GRAPHITE PASTE?"

Write for FREE sample today

SEALS TIGHT... BREAKS RIGHT!
A Product of KEY COMPANY

2601 McCasland • East St. Louis, Illinois

▲ For more details circle NED-315 K5 on enclosed inquiry slip ▲

HORIZONTAL BELT CONVEYOR in lengths from 5 to 80 ft

Lengths from 5 to 80 ft and standard frame widths of 12, 15 and 21 in. are available in the Moto - Belt horizontal belt conveyor for production, assembly, inspection and packaging operations. Frames can be aluminum, steel or stainless and are made in 10-ft sections. Belts are of cotton, canvas, rubber, neoprene, plastic or wire mesh from 2 to 18 in. wide. Belt speeds can be fixed or variable in a 3-to-1 range. Standard drive is by electric motor and speed reducer. Made by **New London Engineering Co.,** 1701 S. Divison St., New London, Wis.

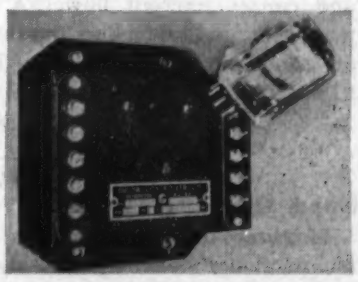
▲ For more details circle NED-316 K5 on enclosed inquiry slip ▲

LABORATORY WATER STILL produces ½-gph of pure water

Midget portable laboratory still weighs 10 lb and produces ½-gal of pyrogen-free distilled water per hour. It is made of stainless steel and copper, with critical surfaces coated with block tin. All condensing surfaces are wide areas, and it will not lime up or clog. An adjustable constant flow head maintains water level regardless of changes in pressure, sedimentation or other conditions. Made by **Precision Scientific Co.,** 3735 W. Cortland St., Chicago 47, Ill.

▲ For more details circle NED-317 K5 on enclosed inquiry slip ▲

LIQUID LEVEL CONTROL is floatless electronic type



Operating coils of this floatless liquid level control are completely covered with a moistureproofing compound. Thus, they cannot be damaged by any unusual moist conditions. Operating relay is of the plug-in two-hole double-throw type in a clear plastic case for visual inspection. It is easily replaced. Unit is furnished in NEMA 1 or NEMA 4 cases or bare chassis. Made by **Gulow Controller Co.,** 301-303 Hackensack St., East Rutherford, N. J.

▲ For more details circle NED-318 K5 on enclosed inquiry slip ▲

now—ALL FROM 1 SOURCE

- Vari-speed motor pulley
- Reliance Ac motor
- Adjustable motor base
- Vari-speed belt
- Driven pulley

REEVES *Vari-Speed Motor Pulley*

This simple, compact REEVES unit widens machine range—economically, adjusts work flow to conditions. Smooth, instant speed changes without stopping machine. Also available without motor. Full details—Bulletin ND18a-V545.

REEVES PULLEY COMPANY, COLUMBUS, INDIANA
Division of RELIANCE Electric and Engineering Co.

▲ For more details circle NED-319 K5 on enclosed inquiry slip ▲

★ ELIMINATE COSTLY MAINTENANCE! ★ ASSURE TOP PERFORMANCE!

SEALMASTER
BALL BEARING UNITS

BALL BEARING UNITS

A COMPLETE LINE FOR ALL YOUR REQUIREMENTS

WRITE TODAY FOR BULLETIN #454

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

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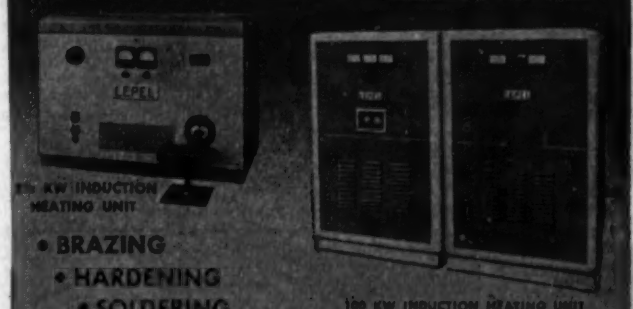
YOU CAN HEAT *ANYTHING*

FROM A NEEDLE . . . TO A TURBINE SHAFT

FASTER AND BETTER

WITH *LepeL*

HIGH FREQUENCY *Induction* HEATING UNITS



- BRAZING
- HARDENING
- SOLDERING
- ANNEALING
- MELTING

The Lepel line of induction heating units represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating. With a background of half a century of electrical and metallurgical experience, the name Lepel has become the symbol for quality in induction heating equipment embodying the highest standards of engineering achievement, dependable low cost operation and safety.

If you are interested in the application of induction heating you are invited to send samples of the work with specifications of the operations to be performed. Our engineers will process these samples and return the completed job with full data and recommendations without any cost or obligation.

LEPEL Electronic Tube GENERATORS
1 KW; 2½ KW; 5 KW; 10 KW; 20 KW; 30 KW; 50 KW; 75 KW; 100 KW.

LEPEL Spark Gap Converters
2 KW; 4 KW; 7½ KW; 15 KW; 30 KW.

WRITE FOR THE NEW LEPEL CATALOG
36 illustrated pages packed with valuable information on high frequency induction heating.

All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

▲ For more details circle NED-321 K5 on enclosed inquiry slip ▲

". . . . and under the picture say that my new assistant proposed packaging in Clearsite Plastic Containers."

Choose from a wide selection of feather-light, sparkling-bright, shatter-proof Clearsite Containers, or have special sizes made to your specifications. Any trademark or label can be multi-color printed right on the container.

Write for free samples and descriptive literature.

CELLUPLASTIC CORPORATION

General Offices:
44 Avenue L, Newark 5, N. J.

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CLEAN WITH STEAM

THIS EASY WAY

VAPOR UPGRADER JUNIOR

HYDRAULIC STEAM CLEANER

Faster and better steam cleaning at a low, low price! Vapor Upgrader Junior develops up to 140 p.s.i. pressure, produces steam in 70 seconds. Cuts labor costs. Lightweight, portable on easy-rolling wheels. Used indoors or out. See for yourself what "Junior" can do!

ONLY **$399** COMPLETE F.O.B. FACTORY

Dissolves and flushes away all kinds of dirt, grease, and grime. Cleans air filters, motors, tractors, machinery, rolling stock, buildings, and nearly everything else—easily and quickly.

Send for NEW Bulletin 594

VAPOR HEATING CORPORATION
80 E. Jackson Blvd., Chicago 4, Ill.
In Canada: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3

▲ For more details circle NED-323 K5 on enclosed inquiry slip ▲

AMERICAN MONORAIL

Free Moving Cranes

MANUAL-ELECTRIC

American MonoRail cranes offer all the advantages of lightness, easy movement, strength, live load capacity, interlocking and safety devices for loads up to 5 tons. Cranes are available for manual or power operation controlled from cab or floor.

SEND FOR BULLETIN C-1

THE AMERICAN MONORAIL CO.
12116 ATHENS AVENUE • CLEVELAND 7, OHIO

▲ For more details circle NED-324 K5 on enclosed inquiry slip ▲

VARIABLE SPEED DRIVES
line includes constant torque models

Speed Variator line of type K variable speed drives has been supplemented by addition of nine type KL models for constant torque applications. Line now includes 18 sizes. The KL units offer linear speed regulation, obtained with modified iris plate, from ⅓ to two times input speed. Output speeds are variable over range up to 6:1. On constant output torque basis, input horsepowers at 1750-rpm input shaft speed range from 0.80 to 16.0. Made by **Cleveland Worm & Gear Co.**, Speed Variator Div., 3283 E. 80th St., Cleveland 4, O.

▲ For more details circle NED-325 K5 on enclosed inquiry slip ▲

DEFLECTION INDICATOR
adapts to any shaft machinery

Operating on balanced bridge principle, this deflection indicator is especially adaptable to any shaft machine such as marine engines, pipeline pumps and compressors. Indicator consists of two inductor coil pickup units of matched impedance which are mounted on opposite sides of the shaft with equal gaps between each coil and the shaft. A lead from midpoint of coils runs through rectifier to midpoint of power source. So long as air gaps remain constant, bridge circuit is balanced and no current flows. Shaft deflection or vibration beyond limit preset on the device unbalances the impedances and causes current flow. A signal is then sent to magnetic amplifier and operator is warned by light or annunciator. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

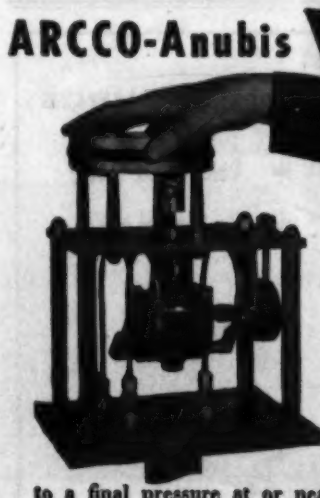
▲ For more details circle NED-326 K5 on enclosed inquiry slip ▲

Hand Trucks

Magline Inc.—In addition to specifications and technical data on over 200 standard models of hand trucks, guidance is given on designing custom model Magliner magnesium hand trucks for specific job requirements in 4-page bulletin HT-101R. Standard hand trucks are constructed from standard parts. Also covered are accessory equipment.

▲ For more details circle NED-327 K5 on enclosed inquiry slip ▲

ARCCO-Anubis CONTINUOUS GAS SAMPLER



MEETING THE DEMAND for more accurate gas sampling, this newly perfected ARCCO-Anubis instrument replaces inadequate, inaccurate spot sampling methods. The Model 100-7 will over a period of seven days accumulate at a constant rate a sample of gas to a final pressure at or near 100 psig from a sample source, the minimum pressure of which is not less than 125 psig.

The ARCCO-Anubis design is based on the principle that maintenance of a constant rate of increase in gas pressure within a closed container, from zero to any selected maximum pressure, will result in a continuous rate of flow of gas into the closed container.

This is accomplished by means of a specially designed regulation system equipped with a precision drive mechanism so as to obtain a constant predetermined rate of increase in the outlet pressure into the sample container.

Send for Bulletin No. 112-R1

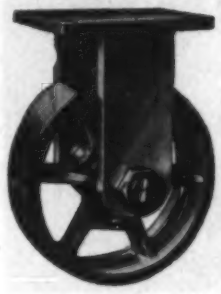
AVAILABLE FOR EARLY DELIVERY

AMERICAN RECORDING CHART CO.
3113 E. 11th St. Los Angeles 23, Calif.

▲ For more details circle NED-328 K5 on enclosed inquiry slip ▲

FROM ANY ANGLE...

...THEY ARE THE *BEST!*



● Albion Industrial Casters are better-built to better serve you. Engineered to save you dollars and man hours by moving greater loads faster, safer, smoother . . . and to do it economically!

Albion casters are readily available in any size, style, capacity and wheel type. Make Albion your one *dependable* source for all industrial casters and wheels.

ALBION INDUSTRIES, INC.
ALBION • MICHIGAN

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Randall **EXCLUSIVE FORMULA GRAPHITED BRONZE BUSHINGS**

... FOR ASSURED LUBRICATION

When bearings are subject to neglect, hard to lubricate, or the shaft turns too slowly to maintain a proper oil film, get assured lubrication protection with Randall's exclusive graphited bearings. They are available in many styles of grooved or plug designs from more than 800 commercial stock size bearings or made to blueprint specifications.

Ask your area distributor for complete information on Randall's complete line of graphited bearings or write direct to the factory.

BRONZE BAR STOCK · BRONZE BUSHINGS · PILLOW BLOCKS · SHEET LUBRICATOR · GRAPHITED BEARINGS · THRUST WASHERS · SAFETY COLLARS · BRONZE CASTING

Randall

RANDALL GRAPHITE BEARINGS, INC.
1007 S. Greenlawn Avenue, Lima, Ohio

▲ For more details circle NED-330 K5 on enclosed inquiry slip ▲

another case where
MUELLER BRASS CO. FORGINGS
improve
a product . . .

diesel engine
water pump
impeller

forged of
"603" HIGH STRENGTH BRONZE

By replacing sand-castings with forgings of "603" high strength bronze, this manufacturer produced a superior pump impeller. Due to the better corrosion resistance, uniformity, and surface finish of the forgings, a more efficient and long-lived pump is now produced. Why not talk to Mueller Brass Co. engineers about the use of bronze forgings in your product, too?

MUELLER BRASS CO.
PORT HURON 27, MICHIGAN 162-A

▲ For more details circle NED-331 K5 on enclosed inquiry slip ▲

Safety Products Division

Yes it's a Safety Goggle!

NEW AO† F5100
with
"ULTRASCOPIC VISION"

Newly designed and engineered "from the ground up" . . . greater field of vision . . . greater wearer acceptability . . . many new features . . . made to last longer for true economy. Be sure to see this new metal goggle and new companion plastic model F9500. Ask your AO Safety Products Representative.

†T.M. Reg. by American Optical Co.

Always insist on Trademarked Lenses and Frames

American Optical

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

▲ For more details circle NED-332 K5 on enclosed inquiry slip ▲

ARO
Variable Speed
AIR HOIST

LEVER PENDENT CONTROL
Also Push-Button or Cable Control

Variable Speed . . . 1000 lbs., 0 to 38′ per minute . . . 2000 lbs., 0 to 20′ per minute . . . load can be inched or zipped.

AIR-powered for Safety...no spark hazard . . . explosion-proof motor . . . can't burn out . . . can't overheat . . . unaffected by dust or fumes.

Lightweight . . . only 28½ lbs. for 1000 lb. hoist . . . 2000 lb. hoist weighs only 47 lbs. Overall length all models, 10½″ to 11⅛″.

See your ARO Distributor

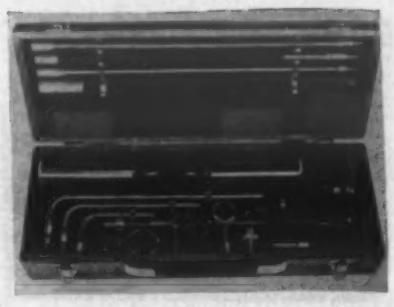
The Aro Equipment Corporation
Bryan, Ohio
Offices in All Principal Cities
In Canada—Aro Equipment of Canada, Ltd.
Toronto, Ont.

ARO AIR HOIST

Also . . . Air Tools . . . Lubricating Equipment . . . Aircraft Products . . . Grease Fittings

▲ For more details circle NED-333 K5 on enclosed inquiry slip ▲

VISUAL INSPECTION KIT
for hidden or blind areas



Blind or hidden areas in bores, cavities and complex assemblies in aircraft, industrial and other types of equipment can be visually inspected by Magnaprobe Illuminator inspection kit. One model consists of small electric light bulbs fitted at the end of rigid or flexible metal probes, while the second type are Perspex probes which "pipe" the light from a remote bulb. Latter is used where fire, explosive and electrical hazards exist. Power supply is two standard dry cells. Various probe lengths and diameters (from 7/64-in.) are included. Made by **Engineering Developments, Inc.**, Magnaprobe Div., Box 1040, Portsmouth, R. I.

▲ For more details circle NED-334 K5 on enclosed inquiry slip ▲

AUTOMATIC STRAPPER
handles boxes up to 20 x 22 in.

Many box sizes can be handled without adjustment on the Auto - Band automatic strapping machine. It wraps tensions and seals the steel band around cartons and boxes without adjustment. Suited to conveyorized packaging lines, its automatic cycle is initiated by hand lever, pedal or button, or with addition of special equipment, by approach of the article to be strapped. Packages up to 20 x 22 in. girth can be handled at rate of 18 straps per minute. Other Auto-Band strappers handle boxes up to 52-in. square. Made by **General Strapping Corp.**, 100 Park Ave., New York 17, N. Y.

▲ For more details circle NED-335 K5 on enclosed inquiry slip ▲

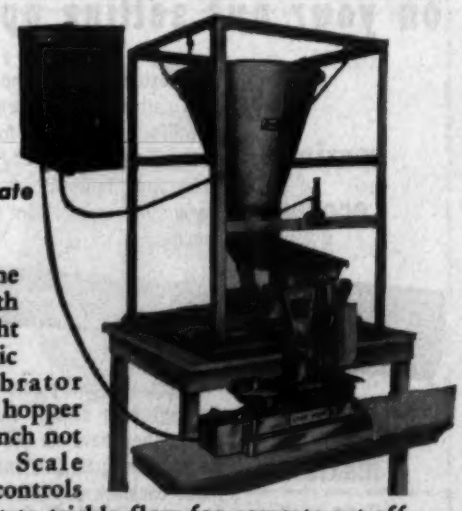
Industrial Plant & Equipment Models

Knight Models, Inc.—Typical applications of three-dimensional models of machines and equipment include plant design, layout and production, employee training, architecture and construction, planning and site development, and to expand markets. These are depicted in 8-page illustrated bulletin "Knight Industrial Models." Both product and complete plant scale models are shown.

▲ For more details circle NED-336 K5 on enclosed inquiry slip ▲

EXACT WEIGHT

Weigh Feeder for fast, accurate packaging



Machines come complete with Exact Weight Scale, electronic controls, vibrator feeder and hopper (table and bench not included) Scale weighs and controls feed from fast to trickle flow for accurate cut-off. Exact Weight scales and feeder machines are available for every kind of packaging, semi-automatic or fully automatic. Complete range of models for packing a few grams up to 100 lbs. Write for literature.

Exact Weight Scales
Better quality control
Better cost control

THE EXACT WEIGHT SCALE COMPANY
930 W. Fifth Avenue, Columbus 8, Ohio
In Canada: P. O. Box 179, Station S, Toronto 18, Ont.

▲ For more details circle NED-337 K5 on enclosed inquiry slip ▲

MARK-TIME makes your product MORE
salable

MARK-TIME makes the difference!

Manufacturers *everywhere* are using Mark-Time Timing Devices for sales appeal. For your new designs call on our competent staff of designers and engineers — they will work closely with you to create a time control for any new product.

MARK-TIME 25th YEAR

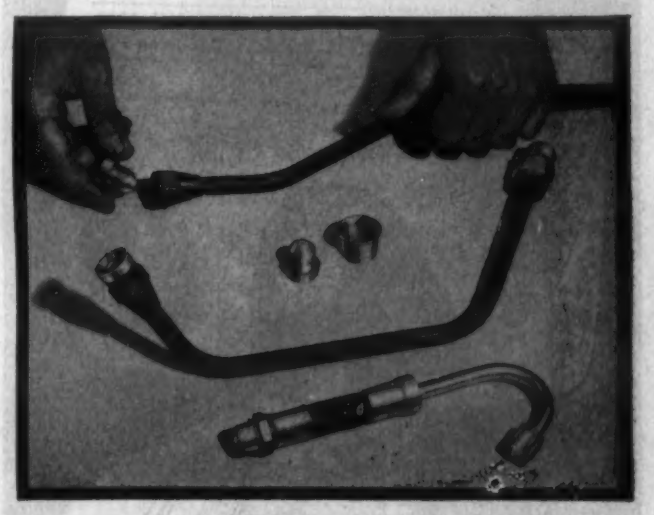
M. H. RHODES, INC.
HARTFORD 6, CONN.

MARK-TIME automatic time switch eliminates over-exposure and under-exposure in a new photo-offset unit. By accurately controlling the plate exposure time interval, MARK-TIME makes it easy for business offices to prepare photo-offset plates right in the office.

Manufactured and Sold in Canada by SPERRY GYROSCOPE OTTAWA, LIMITED Ottawa, Ontario, Canada

▲ For more details circle NED-338 K5 on enclosed inquiry slip ▲

can CaPlugs protect your products this same way?



Look how Anchor Coupling Co., Inc. uses these tough, flexible closures to protect threads and seal assemblies from dirt during storage and shipment.

Says Anchor, "We are sure that assemblies will arrive in our customers' hands in the same clean condition as when they passed our final inspection."

Made of Polyethylene, CaPlugs will not collapse, chip, break or shred . . . are impervious to all common chemical reagents, acids and solvents.

Furnished in six standardized cap and plug designs (both threaded and non-threaded), CaPlugs are regularly used by hundreds of industries on numerous types of tubing, valves, hydraulic components, fittings and machined parts.

Stocked in over 200 sizes (up to 8" in dia.), CaPlugs are readily obtainable to protect your products profitably, too!

find out by writing for this FREE assortment

CaPlugs
DIVISION
PROTECTIVE CLOSURES CO., INC.
2209 ELMWOOD AVE. BUFFALO 23, N. Y.

▲ For more details circle NED-339 K5 on enclosed inquiry slip ▲

get this **free** illustrated bulletin

How you Can Save Time Measuring Surface Temperatures in Your Plant with

ALNOR PYROCONS

The Alnor Pyrocon combines laboratory precision with production tool ruggedness to give you fast, accurate answers to all surface temperature problems. It takes just 3 seconds to give you the temperature of any surface...regardless of shape or material...revolving or stationary. And the heavy, shock-resisting movement is housed in a balanced unit that's compact, easy to handle.

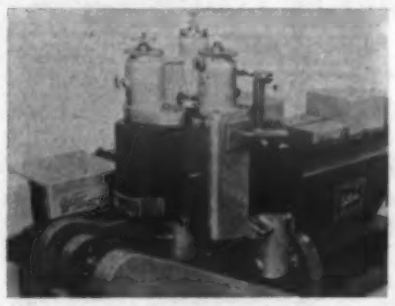
Mail this ad with your business letterhead to Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-340 K5 on enclosed inquiry slip ▲

CARTON ADDRESSING MACHINE
uses quick-change printing dies



Modification of the Markoprinter imprinting machine enables it to be used for automatic high speed addressing of shipping cases and cartons. It accommodates quick-change printing dies and is adjustable for various size cases. Only attention required is changing address dies. Grouped cases going to a single address are fed into the machine, then discharged printed onto a conveyor, pallet, tote box or basket. Made by **Adolph Gottscho, Inc.,** 6C Terminal Rd., Hillside 5, N. J.

▲ For more details circle NED-342 K5 on enclosed inquiry slip ▲

SPRAY GUN
for touch-up work and shading

Overhead trigger equipped model 15 spray gun is suitable for all types of touch-up work and shading. Air line connection at the back of the gun puts the weight of the hose on the arm for support and makes it easier to reach into corners or awkward spots. The 4-oz glass siphon cup permits economical application of small quantities of finish. Cups can be used for storage by capping with a tight lid. Eight and 16-oz aluminum cups are also available. Made by **Binks Mfg. Co.,** Dept. NED, 3122 Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-343 K5 on enclosed inquiry slip ▲

COIL TESTER
shows number of turns from 10-3000

Field, armature, transformer and solenoid coils are typical of those which can be tested on model 55 coil tester. It detects shorts on one or more turns, detects "opens" and shows number of turns in a coil from 10 to over 3000. Maximum coil opening is 2⅝ x 3 in., or 3⅞ in. diameter, while maximum coil height is 6 in. Tester operates on 115-v 60-cycle ac. Made by **Martindale Electric Co.,** 1387 Hird Ave., Cleveland 7, O.

▲ For more details circle NED-344 K5 on enclosed inquiry slip ▲

▲ For more details circle NED-346 K5 on enclosed inquiry slip ▲

HYDRAULIC VALVES

RIVETT OFFERS 190 MODELS FOR EVERY NEED!

Designed for pressures up to 1500 P.S.I. and furnished for 3000 P.S.I. in certain models, Rivett 4-way Hydraulic Valves are offered in four types of action—standard, spring return, spring centered, and ball detent; five piston designs to meet requirements of any circuit; six types of operation—hand, foot, cam, solenoid, oil pressure, and air pressure; seven sizes—¼", ⅜", ½", ¾", 1", 1¼", and 1½".

Write for Catalog Section 204 showing specifications and drawings of Rivett Hydraulic Valves.

RIVETT LATHE & GRINDER INC.
Brighton 35, Boston, Mass., Department NED10

▲ For more details circle NED-347 K5 on enclosed inquiry slip ▲

DRY Hands QUICK!

—in less than 30 seconds!

National Hand Dryers have replaced messy towels

in thousands of cost-conscious establishments including firms you know: GULF, GREYHOUND, BULOVA, PAN AMERICAN, UNION PACIFIC, CITY OF CLEVELAND, LA GUARDIA AIRPORT, ROCK ISLAND R. R., U. S. NAVY, MAYO CLINIC, HICKEY-FREEMAN, HOT SHOPPES, INDIANA BELL TELEPHONE, SYLVANIA, TWA, PICK HOTELS and endless others.

Where there are alert buyers, whose first measure of value is quality, NATIONAL Hand Dryers have easy sailing. NATIONALS are in a class by themselves... Lower hand-drying cost... no clogged toilets and no plumbing bills...no *messy* washrooms...*Quick*, sanitary drying by air—for less!

Once you learn the facts YOU, too, will select NATIONAL Hand Dryers!

NATIONAL Dryers Proved Best by U. S. Government Test

MAIL THIS COUPON TODAY!

NATIONAL Dryer Sales Corp.
616-20 W. Adams St., Chicago 6, Ill.

Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost-saving figures and full details on your FREE-TRIAL offer.

My name.....

Firm name.....

Street.....

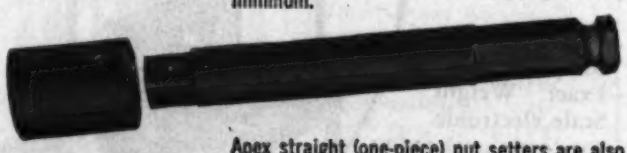
City..... State.....

▲ For more details circle NED-341 K5 on enclosed inquiry slip ▲

on your nut setting operations-

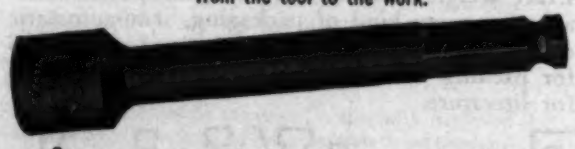
for maximum economy

Apex extensions and impact sockets, built of high carbon electric furnace alloy steel, are specifically designed for continuous, hard usage. When wear finally does occur, you replace only the worn part—socket or extension—your tool replacement costs are kept to a minimum.



for maximum torque

Apex straight (one-piece) nut setters are also built of high carbon electric furnace alloy steel. They have no joints, locking devices or movable parts. This one-piece design eliminates backlash and vibration . . . full torque is developed, as power is applied directly from the tool to the work.

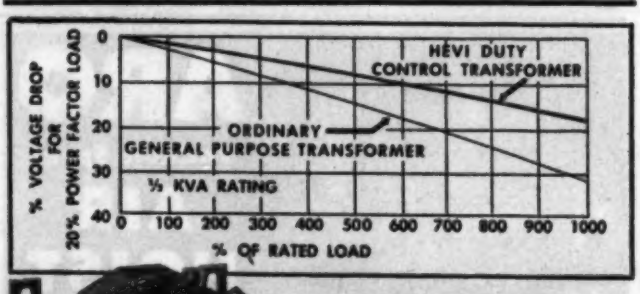


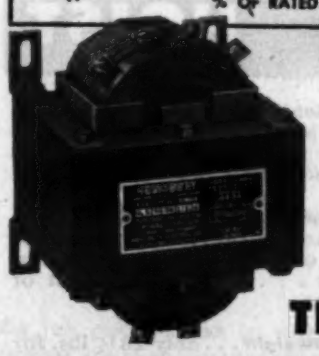
for every nut setting operation

Catalog 29 is available on request— please use your company letterhead.

APEX sockets, extensions, adapters
THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

▲ For more details circle NED-345 K5 on enclosed inquiry slip ▲





VOLTAGE REGULATION of Control Circuits with HEVI DUTY TRANSFORMERS

Extremely good voltage regulation is important for proper operation of magnetic contactors, relays, solenoids, and other types of units having high inrush currents at low power factor. This compact neat appearing Hevi Duty Transformer with slotted mounting feet, firmly anchored screw type terminals, is designed for your control panel installation. Engineering data on sizes 30 VA to 10,000 VA in *Bulletin T-5111*.

HEVI DUTY ELECTRIC COMPANY
HEAT TREATING FURNACES HEVI-DUTY ELECTRIC EXCLUSIVELY
DRY TYPE TRANSFORMERS — CONSTANT CURRENT REGULATORS
MILWAUKEE 1, WISCONSIN

▲ For more details circle NED-348 K5 on enclosed inquiry slip ▲

No. 1 in 50,000 Firms

Because It Outlasts Ordinary Brushes 3 to 1

27 Speed Sweep styles and sizes to meet every sweeping need. Write for prices today.

MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22nd Street *Milwaukee 3, Wis.*

▲ For more details circle NED-349 K5 on enclosed inquiry slip ▲

BEVERLY *Pneumatic* **THROATLESS SHEAR**

CAPACITY
3/16 MILD STEEL
10 GA.
STAINLESS

FASTER, EASIER CUTTING *to any Shape!*

- Compactly built for maximum visibility and efficiency
- Operates on 35 to 150 PSI air pressure
- Adjustable power and return stroke length and speed

Beverly Pneumatic Shears combine all the advantages of Beverly Throatless Shears with fast, effortless cutting action through air cylinder operation. Air operation speeds work, permits accurate cutting to a pattern or template, as operator can concentrate on guiding work through the shear. Flow control valves permit precise adjustment of stroke speed; adjustable actuating arm controls stroke length. Foot Switch permits operator to use both hands on the work piece. Operates on 110V. 60 cycles AC and 35 to 150 PSI air pressure.

See your nearby Beverly Distributor
Write for catalog sheet and complete details.

BEVERLY SHEAR MANUFACTURING CO.
3016 W. 111th STREET • CHICAGO 43, ILLINOIS

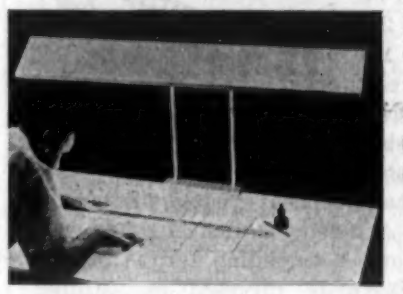
▲ For more details circle NED-350 K5 on enclosed inquiry slip ▲

ELECTRONIC RELAY
has "fail safe" feature

High load handling capacity, low control current, stable direct current circuitry and a four-way panel selector switch that permits "fail safe" operation in any application are features of this electronic relay. It has a capacity of 20 amp at 120 v. Sensitivity enables it to be actuated by low current sensing elements such as mercury column thermoregulators or directly by a type 930 gas phototube. Selector switch permits either control or load circuit to be either normally-closed or normally-open. Made by **Arthur S. LaPine & Co.**, Editorial Dept., 6001 S. Knox Ave., Chicago 29, Ill.

▲ For more details circle NED-352 K5 on enclosed inquiry slip ▲

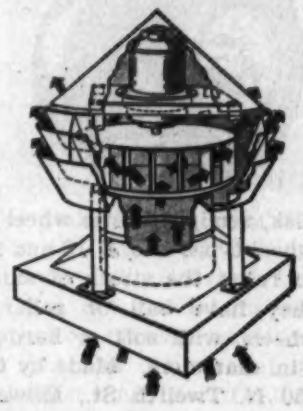
DRAFTING BOARD LAMP
throws 100 foot-candle light



Entire working area of drafting and drawing boards is illuminated with a shadowless light, free from glare, by the Draft-o-Lamp. Using two 40-w fluorescent lamps, it directs 100 foot-candles of light on the board. Lamp is adjustable for height, and it clamps on the back of the board so as not to interfere with use of the T-square. Instant starters result in nonflickering light. Made by **Midwest Lighting Products Co.**, Dept. 1, Box 536, Cleveland 7, O.

▲ For more details circle NED-353 K5 on enclosed inquiry slip ▲

POWER EXHAUSTER
blows air up and away from roof



Fume-laden air which could have a harmful effect on roof surfaces is blown up and away by the Proctor power exhauster. Its fan is directly connected to the motor to minimize maintenance costs. Four models powered by 1½, 2, 3 and 5-hp motors have free air capacities of 7600, 10,200, 12,500 and 16,400 cfm. Made by **Proctor & Schwartz, Inc.**, 702 Tabor Rd., Philadelphia 20, Pa.

▲ For more details circle NED-354 K5 on enclosed inquiry slip ▲

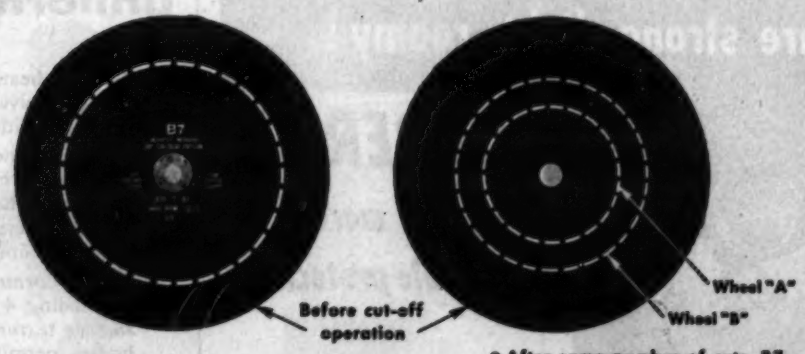
B7

NEW BOND TYPE

sets new standards of performance

FOR ABRASIVE CUT-OFF

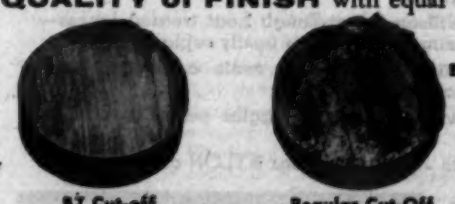
● **LONGER WHEEL LIFE** with equal quality of finish.



B7 Bond Wheel

● After same number of cuts, B7 outlasts Wheels "A" and "B" by 10-25%.

● **BETTER QUALITY of FINISH** with equal wheel life.



Slight Burn
Light Burr
Cold Rolled Bar Stock, 1⅛" diameter

B7 Cut-off

Excessive burn
Heavier Burr
Cold Rolled Bar Stock, 1⅛" diameter

Regular Cut-Off

HERE'S PROOF that this revolutionary new bond type—B7—is the finest combination yet developed to give you maximum finish, maximum cut-off speed, and maximum wheel life!

Thousands of these new wheels have been job-proven on work just like yours. The B7 Bond Wheel is *another* CARBORUNDUM development...a wheel you'll use with profit!

FREE FOLDER!

Gives complete specifications, applications and starting recommendations for B7 Bond Resinoid Cut-Off Wheels. Use the inquiry card provided by this publication, or, if you prefer, write THE CARBORUNDUM COMPANY, Dept. NED 81-525, Niagara Falls, New York.

CARBORUNDUM
REGISTERED TRADE MARK
...continually putting more **SENSE** *in your abrasive* **DOLLAR**

▲ For more details circle NED-351 K5 on enclosed inquiry slip ▲

R&M HOISTS • CRANES • WINCHES

GET MORE "BIG HOIST" FEATURES in Robbins & Myers "J" HOISTS

capacities 500 to 4000 lbs.
prices start at $268.00

"Big Hoist" features of the "J" include: Heat treated gears, precision ground shafts, sealed or splash lubricated ball bearings, plow steel cable, rugged limit switch, ball bearing sheave block, forged steel hook, shoe-type motor brake, Weston-type load brake, push-button control, hook, lug, or plain trolley mounting. Speed choice 15, 19, or 30 fpm, lift choice 10 or 20 feet. Write for Bulletin 851-B.

take it up with
ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO | BRANTFORD, ONTARIO

▲ For more details circle NED-355 K5 on enclosed inquiry slip ▲

Leveling a heavy piece of machinery is a simple job with the "Lo-Hite."

The "Lo-Hite" Hydraulic Jack—30-Ton Capacity—Can Do These Operations Quickly, Easily

Here's what you get in the complete "Lo-Hite" Kit: 1. precision built hydraulic pump; 2. completely oil-sealed seamless steel ram; 3. eight feet of strong, flexible rubber hose; 4. two detachable, heat-treated steel tops, radius and pointed; 5. combination pinched-end, steel pry bar and operating lever 27½ inches long.

This versatile and powerful little tool (it weighs but 44½ lbs., yet it can move 30 tons) was designed for powerful lifting, pushing, and pulling jobs in places where a jack handle cannot be operated. The independent hydraulic pumping mechanism is connected to the ram (jack) by an 8-foot flexible rubber hose permitting operation of the jack in any direction. Ideal for pulling bearings, bushings, and liners on electric motors and many other applications (see list at right). Your local industrial distributor can give you complete specifications. He has the "Lo-Hite" in stock or can get it for you quickly. For his name and address and a copy of bulletin AD32-N contact Duff-Norton Company, P.O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

It can:
LIFT
HOLD
PUSH
PULL
SWEDGE
CLAMP
BEND
PRESS
SPREAD
MOVE
PUNCH
STRAIGHTEN
SLIDE
REMOVE
LOWER
RAISE
LEVEL
POSITION
DRAW
PINCH
FORCE
TEST
APPLY
INJECT
ALIGN

DUFF-NORTON COMPANY
Giving Industry a Lift Since 1883

▲ For more details circle NED-356 K5 on enclosed inquiry slip ▲

BEKO BALANCER

INCREASES PRODUCTION OVER 100% WITH A HIGHER DEGREE OF ACCURACY

A Thoroughly Proven Dynamic and Static PRODUCTION BALANCER

- PROVEN IN USE ease of use by unskilled operators
- PROVEN IN USE for direct and accurate indications
- PROVEN IN USE for convenient and rapid operation
- PROVEN IN USE for dependable heavy duty service

9 MODELS

MASTER APPLIANCE MFG. CO. OF RACINE, WISCONSIN SAYS BEKO BALANCER HAS INCREASED THEIR PRODUCTION MORE THAN 100% WITH GREATER ACCURACY THAN EVER BEFORE.

Let us show you how a BEKO Balancer will cut your costs . . . Write for catalog

BALANCE ENGINEERING CO.
CHICAGO

Sales Division: MACDELL CORP.
846 W. LAKE STREET · CHICAGO 7, ILL.

▲ For more details circle NED-357 K5 on enclosed inquiry slip ▲

Another NEW FAFNIR DEVELOPMENT

Complete family of 5 sizes . . . includes high capacity roller type bearings for power-operated control systems and ball type with high shaft strength for manually-operated control systems. Write for Balanced-Design Rod End Bulletin. The Fafnir Bearing Company, New Britain, Conn.

**Bearing capacity, shank strength and bolt strength all designed in balance.*

FAFNIR BALL BEARINGS
Most Complete Line in America

▲ For more details circle NED-358 K5 on enclosed inquiry slip ▲

SHAFT-MOUNTED SPEED-REDUCTION DRIVES SAVE TIME—GIVE PRECISE SPEED YOU NEED.

If you operate any slow-speed process you can save installation and maintenance time, valuable floor space and money, with the American Shaft-King Speed-Reduction Drive. It mounts directly on standard shaft extensions, needs no supports or costly engineering to install, remove or relocate.

Shaft-King is 98% efficient, produces the exact slow speed you want from 154 RPM down, handles requirements through 40 HP.

Two ratios—13 to 1 and 20 to 1—meet practically every need. Available immediately from your local distributor. Write for catalog. There's no obligation.

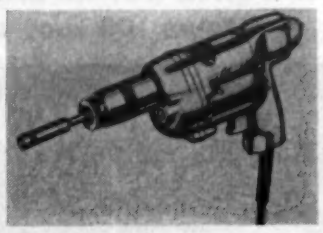
▲ For more details circle NED-359 K5 on enclosed inquiry slip ▲

RACK-MAKING PIPE CLAMP
available for ½ to 1½-in. pipe sizes

Utility racks for storage of all types of materials as well as scaffolding and shelving are readily made up to any desired pattern with Tube-Strut clamps and lengths of pipe. Any number of pipes or tubes can be joined at right or oblique angles with simple wrench by these units which are available for ½, ¾, 1, 1¼ and 1½-in. pipe. Shelving heights and rack sizes can be changed quickly as need arises. Made by **Tubular Structures Corp. of America,** Tube-Strut Div., 3129T Riverside Dr., Los Angeles 27, Calif.

▲ For more details circle NED-360 K5 on enclosed inquiry slip ▲

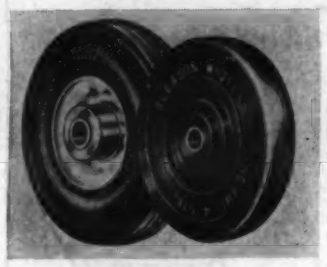
ELECTRIC SCREWDRIVER
for up to ¼-in. machine screws



Universal-type motor powers this electric screwdriver, rated at 2.2 amp at 115 v and 1.1 amp at 230 v. Tool can be used with up to No. 10 self-tapping machine screws or ¼-in. machine screws. Planetary gears of heat-treated alloy have 17.3 to 1 reduction. A driving clutch engages with pressure on the bit, and disengaging torque or slip can be adjusted. Drive is reversed by turning knurled ring 45 degrees. Model features heavy steel suspension bail that can be mounted on Mall B-10 overhead balancer. Made by **Mall Tool Co.,** 7725 S. Chicago Ave., Chicago 19, Ill.

▲ For more details circle NED-361 K5 on enclosed inquiry slip ▲

INDUSTRIAL WHEELS
semipneumatic, solid rubber types



Custom-built equipment such as portable racks, floor trucks, assembly stands, dollies, mobile testing equipment and platform trucks can be fitted with this line of medium and heavy duty industrial wheels. Steel disk, semipneumatic wheel line is comprised of seven wheel types in 6, 8, 10 and 12-in. diameters. Designed to resist the strain of side and radial thrust loads, they have ball or roller bearings. Solid rubber wheels, with soft or hard tread, are offered in 2 to 8-in. diameters. Made by **Gleason Corp.,** Dept. NED, 250 N. Twelfth St., Milwaukee 3, Wis.

▲ For more details circle NED-362 K5 on enclosed inquiry slip ▲

WILLSON Kover-Mor® Goggles are strong, light, roomy!

CHIPPERS get longer, more comfortable protection!

- Unique design provides ample room for large-frame prescription glasses
- Fitted with Willson Super-Tough heat treated lenses—standard 50 mm. round lenses easily replaced
- Extra ventilation supplied by vents and ports safeguarded by screens
- Rigid metal top bar makes goggles easier to handle, more secure
- Available with opaque or clear NYLON cups

Ask your Willson distributor for Kover-Mor® Chipper's Goggles—they'll take toughest use!

Over 300 safety products — Safety this famous trademark — WILLSON

WILLSON PRODUCTS, INC., 219 Washington Street, Reading, Pa.

▲ For more details circle NED-363 K5 on enclosed inquiry slip ▲

Fenwal first to use thermistor in indicator-controller

The new Fenwal *Series 560* Indicator-Controller is a revolutionary advancement in design and performance. Employing a super-sensitive thermistor, hermetically sealed in glass and enclosed in steel, the new instrument has many advantages that make it an outstanding value for both industrial or laboratory applications. The new sensing element not only probes temperatures from 200° to 600°F with closest accuracy; it also simplifies operation and maintenance by eliminating complex circuitry. And a selection switch permits either time-proportioning or on-off control, with accuracy to within 0.25% of full scale. For complete data on the *Series 560,* **write for Bulletin MC123. Fenwal Incorporated, 810 Pleasant Street, Ashland, Mass.**

Fenwal Controls Temperatures . . . *Precisely*

▲ For more details circle NED-364 K5 on enclosed inquiry slip ▲

Corning heating panels are suitable for operation at temperatures as high as 660°F., range in watt densities from 2.6 to more than 9 watts per square inch.

New Corning industrial radiant panels give **uniform heat distribution**

Corning heating panels radiate infrared rays in a manner that gives you unrivaled uniformity of heat distribution without need of deep reflectors.

Because the heat is radiated from a flat glass surface, distribution is uniform, little is lost to the air and no oppressive heat surrounds the installation to reduce worker efficiency and comfort. Since there is no glow, you also eliminate eyestrain and fatigue from glare.

The Corning panels emit long wave-length radiation (exceeding 4 microns). Most materials, *regardless of surface texture or color,* absorb such radiation as black bodies, permitting maximum absorption of heat energy. The panels are smokeless and sootless, easy to install, safe to operate. The electrically conductive surface of the glass is the back surface—away from the work and completely enclosed.

You can build tunnels or towers utilizing practically every square inch for radiant heat, or you can suspend banks of panels overhead to save floor space. Each panel carries a one-year warranty.

For other features of this new concept in infrared heating, including design specs and diagrams, write for Bulletin B-89—or check this publication's inquiry slip.

CORNING GLASS WORKS
710 CRYSTAL STREET
CORNING, N. Y.

Corning means research in Glass

▲ For more details circle NED-365 K5 on enclosed inquiry slip ▲

The OFFICE VALET

Reduce Absenteeism—keep employee's wraps dry, aired, and in press

With Office Valet wardrobe equipment employees do not face weather in damp-clothing that has been crumpled in lockers, do not eat soggy lunches soaked by wet hats or mittens. The 4 foot 3-U rack, illustrated, accommodates 12 employees with spaced coat hangers, individual hat spaces, umbrella racks and overshoe shelf. Other units with or without lock boxes, in sizes and capacities for every office and factory need.

WRITE FOR BULLETIN OL-8

VOGEL-PETERSON CO.
1121 West 37th St. • Chicago 9, Ill.

▲ For more details circle NED-366 K5 on enclosed inquiry slip ▲

NEW KIND OF POWER SWEEPER

Engineered to outlast—Powered to outperform all others!

Model 406

Forget old ideas about power sweepers! This new Wayne embodies features not found on any other sweeper. Dust-free cleaning, outside or inside, with no *dust bag to empty* because of Wayne's exclusive "Filter-Vac." Hydraulic controls including power dumping. Automotive-type steering for better maneuverability and close-up sweeping. Safety shielding of moving parts. Years-ahead design and operating features.

A model and price for every need. A Wayne quickly pays for itself in labor savings. Ask for an "on-the-job" demonstration or write for literature.

WAYNE

For literature or demonstration write:

WAYNE MANUFACTURING CO. 1212 E. Lexington St., Pomona, Calif.

World's Largest Producer of Power Sweepers for Cities and Industry

▲ For more details circle NED-367 K5 on enclosed inquiry slip ▲

ENGINEERED for DURABILITY AND SERVICE

Hamilton Industrial Trucks

Whatever your requirements . . . there's a Hamilton truck just right for your job! Ranging in load capacity up to 12,000 lbs., Hamilton trucks are available in hundreds of styles and sizes—platform trucks, box trucks, stake trucks, shelf trucks, 2-wheel hand trucks, wagon trucks, lift truck systems, dollies, barrel skids and many others. Special trucks of wood or steel are also designed and built by Hamilton to meet particular requirements. Look into Hamilton trucks before you buy! Be sure you get the right truck for your job! It can lower your costs substantially!

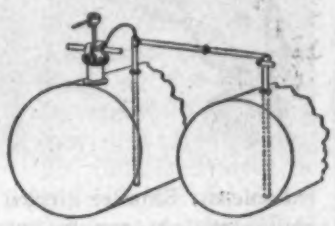
WRITE FOR THE Hamilton Catalog TODAY!

The Hamilton Caster & Mfg. Company
1659 DIXIE HIGHWAY, HAMILTON, OHIO

▲ For more details circle NED-368 K5 on enclosed inquiry slip ▲

SUBMERGED SIPHON PUMP
used in siphon storage tank system

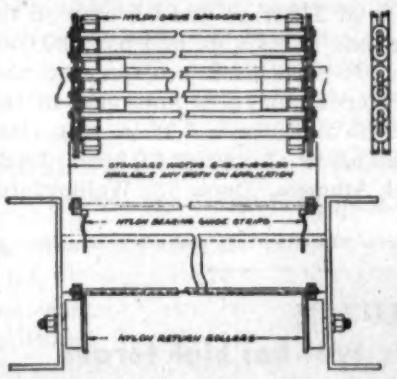
One submerged pumping unit in a main tank suffices for pumping from several tanks when the pump is equipped with a siphoning head. Part of the fluid from the pump passes through an orifice, creating a vacuum in a chamber in the fitting attached to the discharge head of the model 70 RAM submerged pump. Differential pressure between the chamber and storage tank creates a vacuum in the siphon line. Atmospheric pressure fills the siphon line and maintains the level in the connected storage tanks. Once started, action in the system is self-perpetuating. As the siphoning head is an integral part of the pump, it is designed as a model 70 S pump. Made by **John Wood Co.**, Bennett Pump Div., Dept. NE, Muskegon, Mich.



▲ For more details circle NED-369 K5 on enclosed inquiry slip ▲

CONVEYOR SYSTEM
has no metal-to-metal contact

Metal-to-metal contact is eliminated in the Linklok rod type conveyor system. Belting is driven by nylon sprockets which have good resistance to wear. Top or load - carrying portion of the belting is supported and guided by nylon bearing rails which minimize friction, while the bottom or return portion is supported and guided by nylon wheels. Nylon parts also eliminate the necessity for lubrication in the product zone. Standard widths are 6, 12, 15, 18, 24 and 30 in. Available from **Voss Belting & Specialty Co.**, 5647 N. Ravenswood Ave., Chicago 26, Ill.



▲ For more details circle NED-370 K5 on enclosed inquiry slip ▲

Constant-force Spring Data

Hunter Spring Co.—24-page illustrated design and application data guide 310E deals with the Neg'ator constant-force extension spring. The theory, development, general properties and applications of this spring are discussed. Included are detailed instructions for spring design including material selection, estimation of spring life, load and dimensional requirements, and final selection and identification. Charts amplify the text.

▲ For more details circle NED-371 K5 on enclosed inquiry slip ▲

5 7/16"

Staggered starting of electric motors...

AGASTAT
Time / Delay / Relay

AGASTAT allows you to stagger the starting of three motors without imposing their load on the line at the same time.

The AGASTAT is:
- electrically actuated, pneumatically timed.
- light, versatile, dependable.
- instantaneous recycling.
- adjustable in timing from 0.1 second to more than 10 minutes.
- available in AC or DC models which offer delays on energizing and de-energizing, manually-actuated time delay switch, remote push button control, hermetically-sealed units.

Write our application engineers for help with your timing problem. Address Dept. A25-105.

AGA DIVISION

Elastic Stop Nut Corporation of America

1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing.

▲ For more details circle NED-372 K5 on enclosed inquiry slip ▲

"Fischer Turned"

BRASS AND ALUMINUM NUTS

Costing no more than nuts produced by other, less accurate methods, "Fischer Turned" *precision* brass and aluminum nuts make possible new economies in assembly operations. Each Fischer nut is burrless . . . tapped square with the face . . . cleaned and degreased . . . countersunk on both sides . . . tapped to Class 2 tolerances. Write today for complete catalog.

Fischer SPECIAL MFG. CO.
C-231-F9 461 Morgan St. • Cincinnati 6, Ohio

▲ For more details circle NED-373 K5 on enclosed inquiry slip ▲

NOW SPRAY YOUR RUST PREVENTIVE!

RUST VETO quick and handy!

- Press button top for one-hand use
- Clear durable coating seals out moisture
- Dry film protects in storage and remains on metal in processing
- Great for tools, jigs, dies, idle machines

Price: $15.24 per case (1 doz. 12-oz. cans) f.o.b. Philadelphia, Penna. To order, clip ad to your letterhead or requisition and mail to E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

RUST-VETO SPRAY
...a product of

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service...

▲ For more details circle NED-374 K5 on enclosed inquiry slip ▲

Now—cut metal 15 times faster than hand hack sawing!

Slice through 1½" cold-rolled steel in 41 seconds—through 3½" lead-sheathed copper cable in 90 seconds! This new *Portable* Band Saw is *fast—two and a half times faster* than bulky power hack saws!

It's light, compact—handles easily, goes anywhere there's a job to be done. *Continuous cutting action* delivers smooth, controlled sawing in any position, even in cramped quarters—on ferrous and non-ferrous metals, "problem" materials.

Saves its cost over and over—send now for complete specifications and performance data.

MODEL 524 PORTA-BAND — ONLY $215
WRITE TODAY FOR FULL INFORMATION

PORTER-CABLE Machine Company
5120 N. Salina Street
Syracuse 8, New York

Porter-Cable
Quality Electric Tools

▲ For more details circle NED-375 K5 on enclosed inquiry slip ▲

NEW!

Davohm Series 850 Metal Film Resistor

Perfect compromise between precision wire wound—and composition types

This new **precision** film type resistor is hermetically sealed, highly stable, and has a temperature coefficient independent of resistance value. The Davohm Series 850 is available in 1/2, 1 and 2 watt sizes; to tolerances of ±1.0%, ±0.5%, ±0.25%; and, to any desired value.

Compare these performance figures!

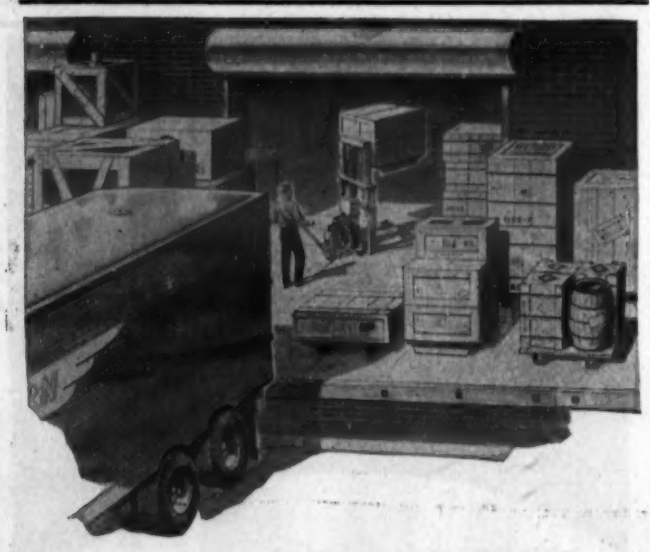
	MIL-R-10509A ALLOWABLE CHANGE	Series 850 TYPICAL CHANGE
Temperature Cycling	1.0%	0.02%
Low Temperature Exposure	3.0%	0.04%
Short Time Overload	0.5%	0.02%
Effect of Soldering	0.5%	0.02%
Moisture Resistance	5.0%	0.06%
Voltage Coefficient	0.002%	0.00%
Load-Life (per 1000 hours)	1.0%	0.20%
Temperature Coefficient (PPM/°C)	±500	+370 ±20

Write for complete data.

Available Through: THE DAVEN ELECTRONIC SALES CORP.
Associated with:
THE DAVEN CO. 199 Central Ave. Newark 4, N. J.

World's largest manufacturer of attenuators

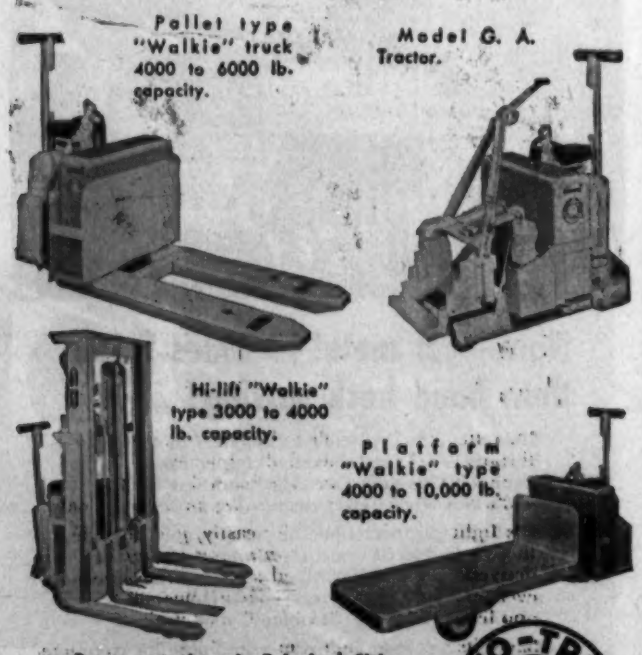
▲ For more details circle NED-376 K5 on enclosed inquiry slip ▲



Maneuverability...

...WHEN YOU NEED IT MOST

In the best regulated plants there are times when in-going and out-going shipments represent a real "bottleneck" . . . production lags and customers' delivery suffers! The maneuverability of a Moto-Truc is the answer for many plants with limited trucking facilities. The Moto-Truc line offers the most compact electric powered trucks in the world . . . yet can handle up to 10,000 pounds. Write for Bulletin No. 54 covering the complete line . . . and remember . . . there's a Moto-Truc for every purpose.



Representatives in Principal Cities

The MOTO-TRUC Co.

1961 E. 59th St. • Cleveland 3, Ohio

Pallet . . . Platform . . . Hi-Lift Trucks

The *Originators* of the Walkie and Small Rider Type Truck.

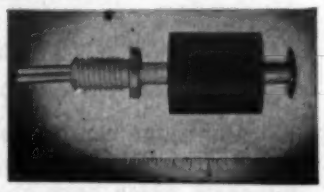
▲ For more details circle NED-377 K5 on enclosed inquiry slip ▲

ELECTRIC METAL SHEARS
cuts up to 16-gage steel

Powered by universal-type motor, this electric metal shears has cutting capacity of up to 16-gage steel. Tool has stroke length of 3/32-in. and produces 2500 strokes per minute. It is designed with ample clearance to cut up to 0.06-in. thickness. Smaller circles than those with minimum radius of 1 in. can be cut in softer and thinner materials by cutting counter-clockwise. Switch is operated by squeezing tool and depressing paddle, all with one hand. An extra set of expendable knives is provided with the tool. Made by **Mall Tool Co.**, 7725 S. Chicago Ave., Chicago 19, Ill.

▲ For more details circle NED-378 K5 on enclosed inquiry slip ▲

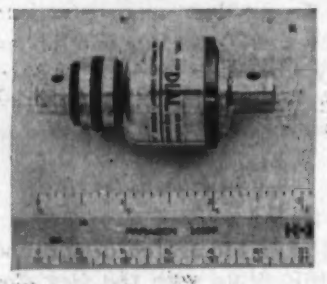
FLOAT LEVEL INDICATOR
usable with solvents, oils, acids



This hermetically sealed float level indicator can be used for control or indication of levels of solvents, oils, acids and other chemicals. Sealed single-pole single-throw switch is rated 10 w at 115 v ac and 0.5 amp on resistive or inductive load at 28 v dc and has 100,000-cycle minimum life. It is enclosed in nylon stem and is actuated by permanent magnets imbedded in the free float. The F-8685 indicator is 3.31 in. long (less leads) by 1.22 in. diameter and weighs 0.9 oz. Made by **Revere Corp. of America,** Dept. 73, Wallingford, Conn.

▲ For more details circle NED-379 K5 on enclosed inquiry slip ▲

MINIATURE CLUTCH
of magnetic type has high torque



Usable in fields of automation, servomechanisms, controls and instrumentation, this model C-130 electro-magnetic clutch weighs only 5½ oz, measures 1 5/16 x 2⅝ in., has a torque output of 7 lb-in. and consumes 3 w. It has a response speed of 10 to 15 milliseconds. In addition to "on-off" clutch service, it can be used as a high speed nonchattering brake and for slip applications for limited periods of time. It permits considerable misalignment. Made by **Dial Products Co.**, Dept. S, 7 Bergen Ct., Bayonne, N. J.

▲ For more details circle NED-380 K5 on enclosed inquiry slip ▲

BIN STUCK LATELY?

There are two ways to handle a stuck bin. You can bang it loose with a sledge hammer, and damage your equipment; or you can install Cleveland Vibrators and put an end to your problem. The first way is slow and costly. But the second way is efficient, fast, and inexpensive.

How about you! Are your schedules suffering from stuck bins? The low cost of Cleveland Vibrators will surprise you, and the results will definitely please you. Why not get the whole story with a two-cent post card.

Air or Electric

Portable or Permanent

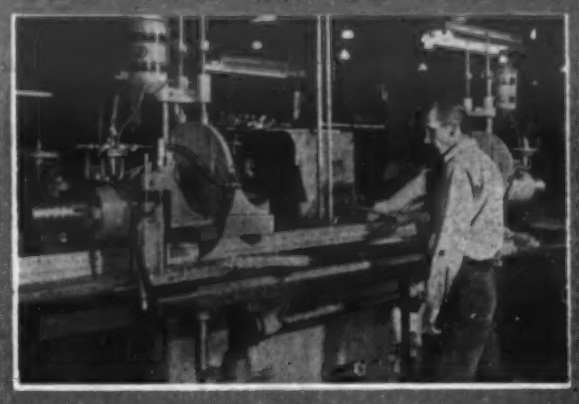
Silent or Standard

THE CLEVELAND VIBRATOR CO.

2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-381 K5 on enclosed inquiry slip ▲

Norgren Oil-Fog Lubrication increases saw blade life 20 times



AT ALUMATIC CORP. OF AMERICA

Norgren Oil-Fog lubrication used on two 16" circular saws which cut extruded aluminum bars...life of saw blades increased from an 8 hour day to 3 to 5 weeks...manual lubrication operation eliminated...smoother cuts practically eliminated burrs on cut ends.

C. A. Norgren CO.
3405 So. Elati, Englewood, Colo.

For complete details on this Oil-Fog application write for Blueprint 122.

▲ For more details circle NED-382 K5 on enclosed inquiry slip ▲

NEW . . . PORTABLE INDICATING PYROMETER and MILLIVOLTMETER

. . . handy, highly accurate for laboratory and industrial use

CHOICE OF THREE SCALE RANGES:
800 F.— 430 C.—17 MV
1600 F.— 865 C.—36 MV
2250 F.—1225 C.—50 MV

8 FEET OF THERMOCOUPLE AND LEAD WIRE

FAHRENHEIT THERMOMETER FOR COLD JUNCTION SETTING

STURDY CARRYING CASE . . . 7"x9"x4 1/2"...DETACHABLE COVER

With the new TEMCO general purpose pyrometer you can make *accurate* temperature checkings in places not readily accessible and up to *eight feet* away from the instrument. Easily carried from room to room, plant to plant. Accuracy is well within 1% of full-scale deflection . . . automatic compensation provided for internal resistance changes due to ambient temperature variation. Three scale ranges as shown above . . . calibrated in Fahrenheit, Centigrade and Millivolts . . . 3¾" mirrored scale . . . housed in attractive, rugged carrying case. A compact, easily operated unit that quickly gives you readings *exactly where and when needed!* Price: $46.50. Write for illustrated bulletin and name of nearest dealer.

TEMCO®

PYROMETERS
TEMPERATURE CONTROLLERS
ELECTRIC FURNACES
HOT PLATES

THERMO ELECTRIC MFG. CO., 484 HUFF ST., DUBUQUE, IA.

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IT ONLY TAKES 2 . . .

RULE 41 AMENDED TO ALLOW 2-STRIP CENTER-SEAM SEALING!

CUT COSTS UP TO 2/3 WITH

Filament Reinforced Sealing Tapes And The FAMOUS DERBY 32-T

The first important closure method change in 40 years! . . . now use 2 strips of tape for all shipments! The Derby 32-T especially designed to dispense all brands of tough filament reinforced tapes quickly, easily, accurately!

Cut Your Shipping Room Costs! Write now, Dept. NED for free booklet about 2 strips and the Derby 32-T

DERBY SEALERS, INC.
DERBY, CONNECTICUT

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GAIN

PATTERN 6-WL SHOWN

★ Lower Costs
★ Increased Strength
★ Improved Appearance
★ Reduced Maintenance
with

RIGID-tex

the Design-Strengthened Metal
40 Striking Designs Available

See SWEETS Design File 1a/Ri or write us for more information.

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RIGIDIZED METALS CORPORATION
71710 OHIO STREET • BUFFALO 3, N. Y.
Sales Representatives in Principal Cities

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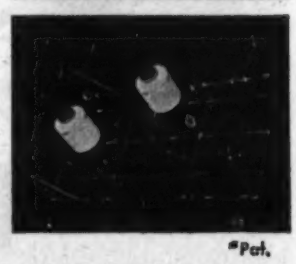
BRING YOUR COSTS DOWN WITH

STERLING SAFE-STACK*
WILKES-BARRE, PENNA.

Wire Baskets and Trays Engineered in size, shape & style to fit your needs.



- REDUCE COSTS OF HANDLING
- PREVENT DAMAGE TO PRODUCT
- INSURE VISUAL COUNT IN MOVEMENT
- LOWER ACCIDENT FREQUENCY

From first operation through packing room
For Palletizing — Bench — Conveyor — Storage Purposes
Send picture sketch or sample of your product for FREE ESTIMATE

STERLING ENGINEERING AND MANUFACTURING CO.
*Pat.

Leaders In Handling Equipment Over 25 Years

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now! 9 SOUTHERN SERVICES

1. Screw Chart
2. Technical Information On Wood Screws
3. Catalog
4. Dealer Wall Chart
5. Stock List
6. Package Stock Guide
7. Wood Screw Catalog
8. Label Key Chart
9. How Wood Screws are Made

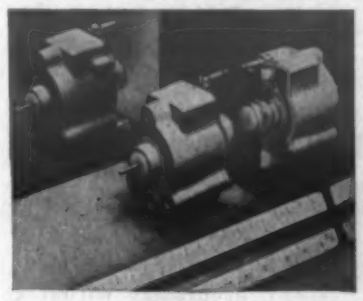
Check aids that cover your needs and mail to Box 1360-Q

Wood Screws • Stove Bolts • Machine Screws • Dowel Screws
A & B Tapping Screws • Roll Thread Carriage Bolts • Hanger Bolts

Southern SCREW COMPANY
STATESVILLE, NORTH CAROLINA
Warehouses: New York • Chicago • Los Angeles • Dallas

▲ For more details circle NED-387 K5 on enclosed inquiry slip ▲

MINIATURE DC MOTOR
has self-governed, controlled speed



Measuring only 1⅝ x 1¾ x 1⅛ in., this self-governed, controlled speed, direct current electric motor weighs less than 3 oz. Its speed of 1800 rpm can be regulated within 1 per cent from idling to full load over a range of battery voltages from 6.4 to 4.6 v. Motor has a three-pole armature, permanent magnet field, die cast zinc body and an armature mounted in self-aligning 1/16-in. diameter lifetime lubricated bearings. Low current drain motor can be used in portable tape and wire recorders, movie cameras, timers and instrumentation. Made by **Kinder Co.**, Box 686, South Milwaukee, Wis.

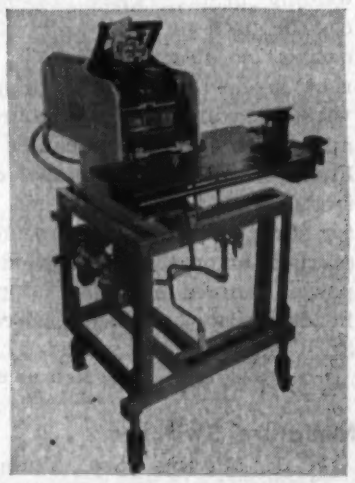
▲ For more details circle NED-388 K5 on enclosed inquiry slip ▲

ROLLING LADDER
for stock rooms and storage areas

Constructed throughout of solid oak with cadmium plated hardware to prevent rusting, improved rolling ladder can be set flush and out of the way when not in use. Each step is mortised and truss rod reinforced for safety. Bottom wheels are long-wearing hard rubber. Lengths are available for any stock room, warehouse or storage area requirement. Made by **Newark Ladder & Bracket Co.**, Dept. AD, Walnut & Central Aves., Clark Township, N. J.

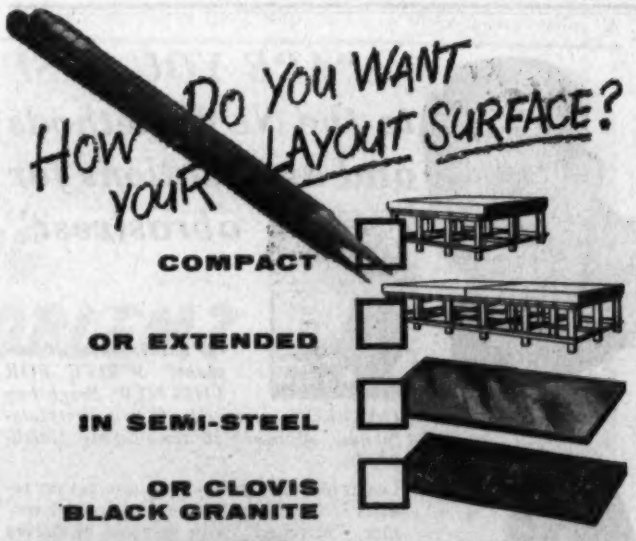
▲ For more details circle NED-389 K5 on enclosed inquiry slip ▲

LABEL IMPRINTING MACHINE
prints on lithographed cans



Variable data such as color, batch number and content, can be imprinted directly on lithographed or pre-printed cans or other cylindrical containers by the Model 70AF machine. It is quickly adjusted for cans sizes from 1/32 to 1 gal. Operating speed is up to 1500 imprints per hour. Maximum imprint area is 2 x 6 in. Marking is done on a sliding carriage, from which the can is manually removed or ejected onto a conveyor. Made by **Markem Machine Co.**, 150 Congress St., Keene 52, N. H.

▲ For more details circle NED-390 K5 on enclosed inquiry slip ▲



CHALLENGE LAYOUT SURFACE PLATES MEET EVERY REQUIREMENT
Available with grooving, scoring, or "T-Slots". In a complete range of standard sizes. Other sizes to order.

You name it . . . Challenge has it! A complete line of Layout Surface Plates in single plate units or multiple sections grooved and keyed into one large flat surface . . . made of special analysis semi-steel or new Clovis Black Granite. Whatever your preference, Challenge Layout Surface Plates provide the unyielding strength and accuracy you need for precision engineering.

Write for the new Challenge Catalog.

783

Challenge THE CHALLENGE MACHINERY CO.
Office, Factories and Show Room:
GRAND HAVEN, MICHIGAN

▲ For more details circle NED-391 K5 on enclosed inquiry slip ▲

Adopt CAMROL CAM FOLLOWERS

This bearing is built especially to use the full advantages of CAMROL Cam Followers in a yoke mounting. The stud of the famous CF series bearing is replaced by an inner race that permits mounting in a yoke when desirable. Use these CYR series bearings or standard CF series cam followers for precision bearing performance in cam action or guide and support roller applications. Roller diameter sizes range from ¾" to 4".

Send for McGILL Catalog No. 52.

50th Anniversary

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 191 N. Lafayette St. Valparaiso, Indiana

▲ For more details circle NED-392 K5 on enclosed inquiry slip ▲

CUTLER-HAMMER A-C RELAYS

New design offers features every panel designer wants

Designers are faced with ever-increasing machine complexity. More and more functions are being combined within single machines. More and more motors are used. Control circuitry becomes more and more complex. Control relays, usually called upon to operate much more frequently than the main control, thus become increasingly important. And Cutler-Hammer engineers have met the challenge of changing requirements.

First, the new Cutler-Hammer Bulletin 9575 A-C Relays provide such greatly increased electrical and mechanical life that they will *never* require replacement in all normal uses. They have dust-safe vertical contacts now doubly improved. Low-inertia movable contact structures cut bounce, the principal cause of arcing which destroys contacts. And the contacts are enclosed in pressure-quenching arc chambers. Armatures move on pivot bearings, avoid the uncertainties of sliding friction, assure quiet, trouble-free operation.

Second, the new Cutler-Hammer Bulletin 9575 A-C Relays were designed for easiest installation, wiring, and accessibility for inspection. Three-point keyhole slot mounting. Self-retaining screws. Straight-through wiring. Pressure connectors on all terminals that can secure two wires of different sizes. Terminals arranged for unobstructed accessibility from front. Easily convertible NO-NC contacts, circuits identifiable without removing contact chamber covers. Clearly visible rating and data on nameplate. Instant coil identification. Contact block and magnets may be easily removed as units and may be quickly disassembled.

Cutler-Hammer 9575 A-C Relays are available in 2, 3, 4, and 6 poles, 10 and 15 amperes, 25, 50, and 60 cycles, 6 to 600 volts, in open type or in NEMA 1 enclosures. Carried in stock by many Cutler-Hammer Authorized Distributors. Phone or write for full information. CUTLER-HAMMER, Inc., 1377 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER MOTOR CONTROL C-H

▲ For more details circle NED-393 K5 on enclosed inquiry slip ▲

There's no height limit when stacking palleted materials with Tramrail cranes. 10 ft.-20 ft. and higher are easy. Your materials and building are the only limiting factors. Often 50% more can be stored in a room.

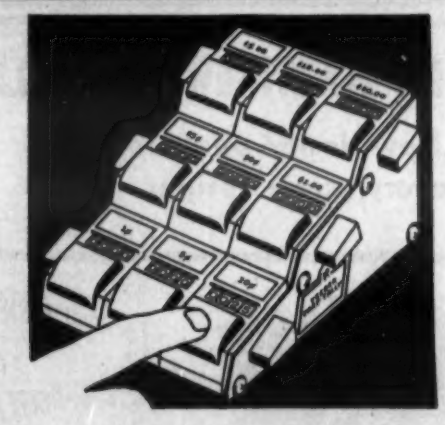
Pallet loads are moved safely and speedily overhead where the path is always clear and unobstructed. Placing this handling job near the ceiling, reduces floor congestion and frees much of it for other purposes.

GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6652 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

▲ For more details circle NED-394 K5 on enclosed inquiry slip ▲



ANOTHER NEW VEEDER-ROOT "FIRST"

New *Vary-Tally* Multiple-Unit Reset Counter gives you quick finger-tip count of anything countable. Comes in any combination up to 6 banks high, and 12 units wide (also a new single unit model). Write for news sheet and prices.

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONNECTICUT
"The Name That Counts"

▲ For more details circle NED-395 K5 on enclosed inquiry slip ▲

many properties in one material

Synthane laminated plastics have become "industry's unseen essentials" because of their highly useful combinations of properties. Synthane laminates combine light weight, toughness, density, mechanical strength, insulation resistance, machinability, electrical strength, chemical resistance, moisture resistance, dimensional stability, and many other desirable characteristics. For full information on the many different grades of *Synthane* sheets, rods, tubes, moldings and fabricated parts, send the coupon for our complete catalog.

SYNTHANE
SYNTHANE CORPORATION
N. E. River Road, Oaks, Pennsylvania
Please send me a copy of the Synthane catalog.
NAME
COMPANY
ADDRESS
CITY ZONE STATE

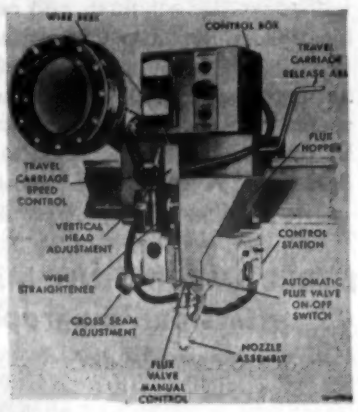
▲ For more details circle NED-396 K5 on enclosed inquiry slip ▲

CONTROLLED VOLUME PUMP
air signal adjusts capacity

Designed to solve specific low capacity flow control problems, this controlled volume pump uses air servo system with feedback loop to give capacity adjustment accurately within 1 per cent. Stroke of pump is infinitely adjustable from 0 to 100 per cent of length by means of reversible rotary air motor. Motor and other components are housed in 22-in. high cabinet mounted on pump base. Four gages show key air pressure at all times. Sensitivity is such that 1/70-psi change in instrument control air pressure causes resetting of pump stroke length. Made by **Milton Roy Co.**, Station N, 1300 E. Mermaid Lane, Philadelphia 18, Pa.

▲ For more details circle NED-397 K5 on enclosed inquiry slip ▲

AUTOMATIC WELDING HEADS
three units for ac or dc use



Choice of hot or cold instantaneous starting; variable inching speeds to or away from work; and choice of carriage operation for stand-still starts, flying starts or manual control are features of LAF-3, LAF-4 and LAF-5 automatic welding heads. They can be used on alternating or direct current in field or shop with a constant potential or variable voltage power source. Heads are easily adapted to fixtures and can be positioned at any angle. Flux control can be manual or automatic with electrodes from 3/32 to 7/32-in. Equipment is available for stationary mounting, mounting on a self-propelled carriage or on a self-propelled tractor. Two 750-amp power sources are also offered for use with these heads. Made by **Lincoln Electric Co.**, Dept. H, 22801 St. Clair Ave., Cleveland 17, O.

▲ For more details circle NED-398 K5 on enclosed inquiry slip ▲

Miniature Switches

W. L. Maxson Corp., Unimax Div.—24-page illustrated catalog No. 655 covers operation and performance data on line of precision miniature snap-acting switches which include high-sensitivity, metal-cased, immersionproof, general purpose, AN type, JAN type, direct current and subminiature models.

▲ For more details circle NED-399 K5 on enclosed inquiry slip ▲

"ARE YOU WISE to the NEW methods and applications for abrasives?"

"We sure save at our plant! WRITE FOR THIS NEW Brightboy CATALOG—your tip-off to a completely new approach to time-saving finishing!"

Learn how Brightboy's unique action results from rubber binders of special texture, "matched" with selected abrasives of various grains—provides the just-right requirements for your jobs. Learn how you can burr, clean, finish, polish, in one operation—*often save up to 50% in finishing time!*

ASK YOUR DEALER NOW for details on multi-use Brightboy. Advise us if he cannot supply you with the new Brightboy Catalog. Write us on any problem where finishing is involved.

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street Newark 7, N. J.

America's Pioneer Manufacturers of Rubber-Bonded Abrasives

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

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INSIST ON THE BEST

EXPANSION JOINTS FOR EVERY PURPOSE
Request Bulletin 351.

ZALLEA BROTHERS
818 LOCUST STREET, WILMINGTON 99, DELAWARE
WORLD'S LARGEST MANUFACTURERS OF EXPANSION JOINTS

▲ For more details circle NED-401 K5 on enclosed inquiry slip ▲

SAFE

New Sessions compression spring catch has specially designed action to protect personnel from injury, even when opened at full pressure. Enclosed springs eliminate danger of fouling. Approved to Signal Corps specs SC-C-76220, SC-B-76221 and amendments.

POWERFUL

Catch is preloaded at 70 lbs., increasing to 100 lbs. through ⅛" deflection. Provides a watertight seal with rubber gasket.

SURE

The quality of Session's stamped assemblies assures positive performance even under adverse conditions.
Write for complete dimensions and prices.

See—
J. H. Sessions & Son
—for stampings

J. H. SESSIONS & SON
289 RIVERSIDE AVENUE • BRISTOL, CONN.

▲ For more details circle NED-402 K5 on enclosed inquiry slip ▲

"We've reduced our scrubbing time from 70 to 7 man-hours ... and our floors have never before been so clean!"
— Says foreman of BURNY BROS. BAKERY, CHICAGO

Burny Bros. garage and stockroom floors get daily scrubbing with a *Job-Fitted Combination Scrubber-Vac* and *Setol Cleanser. They're an unbeatable team* to speed the cleaning of oily, greasy floors. *Here's why:* A *Scrubber-Vac* applies the cleanser, scrubs, and picks up—*all in one operation! Job-fitted* to specific needs, the machine provides maximum brush coverage. Its teammate, *Setol Cleanser*, emulsifies grimy oil and grease *instantaneously* for fast, thorough removal by the machine's powerful vac. The *Scrubber-Vac* shown above, *Finnell's 213P*, cleans up to 8,750 sq. ft. per hour! For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5510 East St., Elkhart, Ind.

FINNELL SYSTEM, INC.
Originators of Power Scrubbing and Polishing Machines
FINNELL
BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-403 K5 on enclosed inquiry slip ▲

Only 12 minutes to drill 6¾" holes through 7½" reinforced concrete with TRUCO WATER SWIVEL and TRUCO SWIVEL DIAMOND DRILL BITS

Truco combination cut drilling time from half-a-day to 12 minutes per hole in department store water mains installation. Truco Swivel Diamond Bits in Truco Water Swivel drill reinforced concrete, granite, marble, brick, ceramic tile, etc. at amazing speed. Use with portable or stationary drills. Indispensible to masons, electricians, plumbers, maintenance crews. Can easily save entire cost on first job. Write for folder.

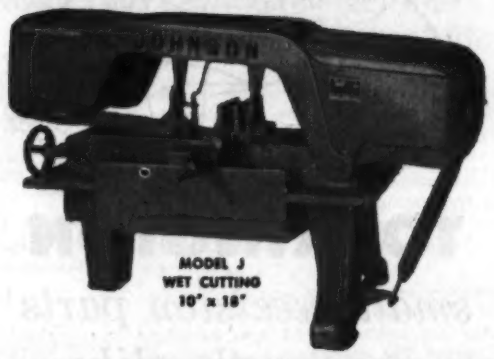
WHEEL TRUEING TOOL COMPANY
61-3200 West Davison Avenue • Detroit 38, Michigan

▲ For more details circle NED-404 K5 on enclosed inquiry slip ▲

THERE ARE MANY REASONS WHY THIS BIG, RUGGED JOHNSON BAND SAW HAS CREATED SUCH A GREAT DEMAND!

THOUSANDS ARE USING IT!

MORE ARE ADOPTING IT EVERY DAY!



Progressive plants everywhere prefer Johnsons because of their greater efficiency, speed, extreme accuracy and dependability. Model J is the one outstanding cut-off saw that assures users the most in labor saving and high production at a surprisingly low investment cost. The most modern machine offered today. Compare its advanced features, its CAPACITY, STRENGTH, 3-POINT SUSPENSION AND SAFETY and you'll buy a Johnson Saw.

Wet Model for Production Cutting—Dry Model for Run-of-Mill Cutting

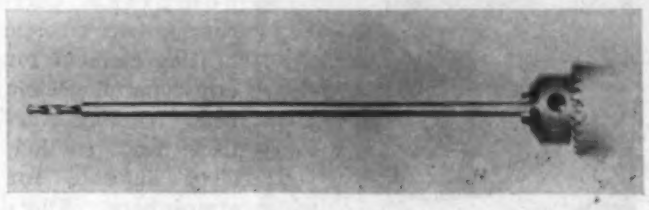
SEND FOR CATALOG AND NAME OF LOCAL DEALER

JOHNSON MANUFACTURING CORP.
BARNES & TAYLOR STS. ALBION, MICHIGAN

▲ For more details circle NED-405 K5 on enclosed inquiry slip ▲

DRILL EXTENSION
can use broken drills

Users of cobalt drills, required for titanium and other hard metals, can make use of this drill extension which utilizes discarded broken drills. One-piece con-



struction of the unit tightly locks the drill section in the extension holder, offered in a standard length of 10 in. Sizes range from No. 50 to No. 10, or 1/16 to 3/16-in. in 1/64-in. increments. Other drill sizes and special lengths may be ordered. Made by **Drilex Tools, Inc.**, Dept. N, 622 E. Jericho Turnpike, Huntington Station, L. I., N. Y.

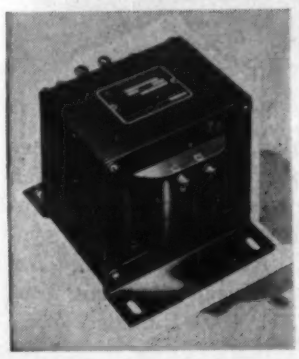
▲ For more details circle NED-407 K5 on enclosed inquiry slip ▲

HACK SAW ATTACHMENT
for air and electric drills

Wood, metal, plastic and other materials can be cut by the SaberSaw hack saw attachment for air and electric drills. The No. 567 unit weighs 3 lb 3 oz, is 7¼ in. long and 2⅝ in. diameter. It features a ball bearing reciprocator, easily changed blades, rifle-sight pointer and steady rest-rocker. Drills of ¼-in. or larger capacity will accommodate the attachment which has a 13/16-in. stroke. Selection of keyhole cutting, scroll cutting and hack saw blades is available. Made by **Thor Power Tool Co.**, State & Kane Sts., Aurora, Ill.

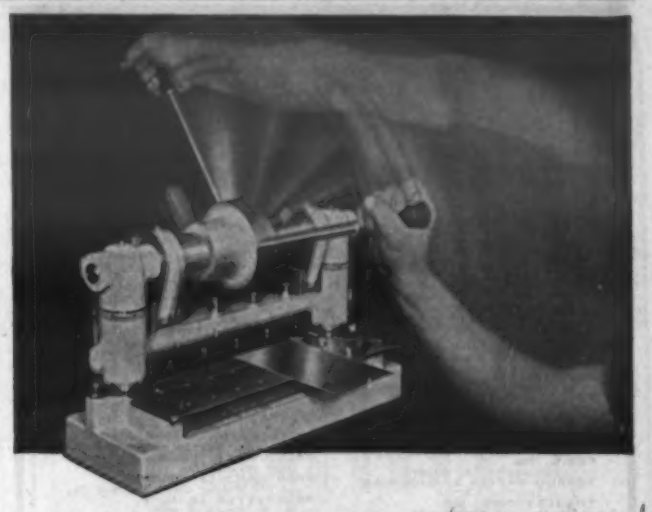
▲ For more details circle NED-408 K5 on enclosed inquiry slip ▲

TRANSFORMERS
for machine tool control panels



Line of standard "rugged duty" transformers for machine tool application includes three different types ranging from 50 to 1500 w. The three voltage lines are 1-60 cycles for 230/460 v primary to 115 v secondary; 2-60 cycles for 575 v primary to 115 v secondary; and 3-50/60 cycles for 230/460/575 v primary to 115/95 v secondary. Made by **Jefferson Electric Co.**, 903 S. 25th St., Bellwood, Ill.

▲ For more details circle NED-409 K5 on enclosed inquiry slip ▲



Want PRECISION SHEARING at HIGH SPEED?
Here's Why You'll Want a Versatile DI-ACRO SHEAR

- PRECISION—strips less than .025" wide accurately sheared, parts exactly duplicated.
- CUTTING SPEED—rivals that of power machines.
- RATED CAPACITY—16 gauge.
- EASY TO OPERATE—a woman can operate it.
- PORTABLE—easy to move.
- FOUR MODELS—6 to 24 inches wide. Four power models.
- ENGINEERING SERVICE—always at your disposal.
- RUGGED—one year warranty.
- DELIVERY—excellent.
- COST—that's good too.

SEND FOR 32-PAGE CATALOG

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. COMPANY
354 8th Ave. Lake City, Minn.

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FASCINATING! HOSE COMES TO LIFE WITH PUNCH-LOK HOSE CLAMPS!

"A simple operation and Punch-Lok puts your hose in use again," says Doc Punch and Mr. Lok. For complete product and price information, see your near-by Punch-Lok distributor, or write direct.

PUNCH-LOK Company

"The sign of a GOOD Hose Clamp"

Dept.A, 321 North Justine Street, Chicago 7, Illinois

▲ For more details circle NED-411 K5 on enclosed inquiry slip ▲

WHAT IS YOUR NAILING PROBLEM?

FMC HAS THE ANSWER

Many of the problems of industrial nailing which are troublesome to you today, may have already been successfully studied and solved by FMC nailing machine design and application engineers.

Problems arising from countless combinations of woods, materials, nailing patterns, speeds, space, manpower, pressures, feeds, mechanics, hydraulics and other variables have been resolved by our engineering department. From hundreds of case histories FMC can counsel with you on all phases of automatic nailing.

Why not take advantage of a backlog of 50 years of practical nailing experience to solve your nailing and box making problems.

Hand us your nailing problem. We believe we can give you a successful FMC answer to it from the scores of types, sizes and models of FMC nailing machines which have been built and are in successful operation by firms like yourself—who once also had a nailing problem!

WRITE, giving us full details—or request Bulletin

FOOD MACHINERY AND CHEMICAL CORPORATION
NAILING MACHINE SECTION
RIVERSIDE, CALIFORNIA

NM-15

fmc

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FOOD MACHINERY AND CHEMICAL CORPORATION
NAILING MACHINE SECTION
RIVERSIDE, CALIFORNIA
Please send information on Nailing Machine Checked
☐ General Purpose Nailer
☐ Pallet Maker
☐ Multiple Spindle Drive Screw Driver
NAME
COMPANY
ADDRESS
CITY STATE

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FOR POWER TRANSMISSION SERVICE

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*NEW ORLEANS, LA.
*(Gears) R. E. Tricom Co., Inc.
*(Reducers) Woodward Wight & Co., Inc.
*NEW YORK, N. Y.
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ESTABLISHED 1915

OHIO GEARS

THE OHIO GEAR COMPANY
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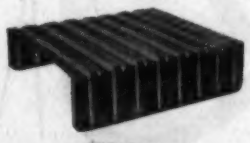
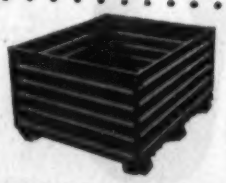
COST CUTTING EQUIPMENT

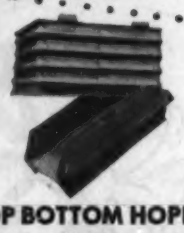
SKID BOXES



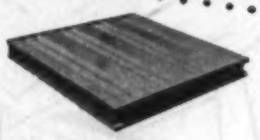
SKIDS



RETURN-O-TAINERS



DROP BOTTOM HOPPERS



PALLETS

Send for catalog on Pressed Steel Equipment

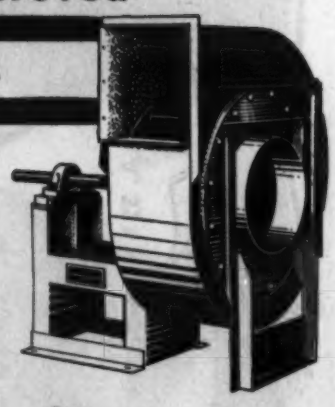
FAB-WELD CORPORATION
SALMON & PICKWICK STS., PHILADELPHIA 34, PA.

For more details circle NED-413 K5 on enclosed inquiry slip

NOW from DRACCO!

performance proved

industrial fans



For All Air Handling Jobs
- General ventilation
- Dust collection
- Fume and high temperature exhaust work
- Conveying refuse, shavings, stringy materials

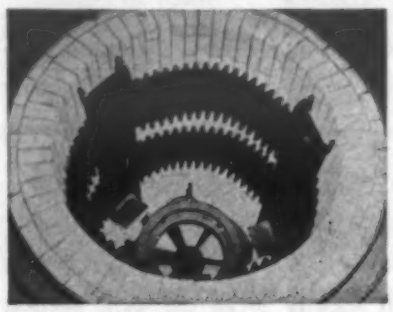
Dracco Industrial Fans—"Performance Proved" by 15 years' use with Dracco Dust Control systems—give longer, trouble-free service. Superior construction—welded, vibration-free, all steel elements, no castings to crack, precisely balanced, Rotation and discharge adjustable. Wide range of sizes—inlet diameters 11"-38", pressures to 17" S.P., volumes from 500-46,000 CFM. For better performance, specify Dracco Fans. For details, contact:

Write for 40-page Dracco Fan Bulletin No. 601 containing complete performance data and specifications.

DRACCO CORPORATION
4055 EAST 116th STREET
CLEVELAND 5, OHIO

For more details circle NED-414 K5 on enclosed inquiry slip

ELECTRIC HEATING ELEMENT is low voltage type for safe use in heat treating furnaces

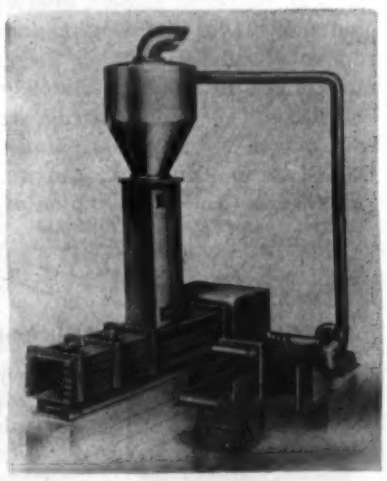


Corrugated sheets of nickel chromium comprise Corrtherm, an electric heating element for any type of electric heat treating furnace, and particularly suitable for atmosphere furnaces. Voltage is between 6 and 10 v in the element, making current leakage impossible. The oxide coating which forms on the surface confines the current to the element, even when covered with soot. Elements are in the form of large sheets which are hung from alloy hooks and cover almost the entire walls of the furnace. Large size is necessary to accommodate high amperages.

With the low voltage, accidental contact with elements during loading or unloading cannot be felt by the operator. Outside electrical connections need not be insulated because of this low voltage. Elements prevent gases from short circuiting and also replace heat absorbed by the charge. Special transformers are required to supply the low voltage. Made by **Lindberg Engineering Co.**, 2444 W. Hubbard St., Chicago 12, Ill.

For more details circle NED-415 K5 on enclosed inquiry slip

POWER PAPER BALER handles up to 30 tons in 8 hours



Bales of bulk paper, paper trimmings, cardboard boxes and sheets produced by the Cyclomatic Balemaster baling system weigh from 800 to 1200 lb. Designed for volume operations, the machine will bale up to 30 tons in a 8-hour shift. System is made up of feed conveyor, hogger that cuts materials being baled, blower that pushes hogged materials into a cyclone, the cyclone in which air and solid materials are separated and the continuous horizontal hydraulic baling press. Entire system is operated by one man. No pit is required for installation. Made by **East Chicago Machine Tool Corp.**, Balemaster Div., Dept. E, 4801 Railroad Ave., East Chicago, Ind.

For more details circle NED-416 K5 on enclosed inquiry slip

WE'VE TAKEN THE MYSTERY OUT OF DRYING OVENS

WITH driQuik

Ovens Any Size or Shape

Infra-Red Interlocking Sections

Whether your production problem involves heating, baking, dehydrating, degreasing or preheating, your own maintenance crew can erect the ovens you need inexpensively and quickly without special tools, or we can build them for you to your specifications. Positive temperature control at the touch of a dial.

NO BULBS OR SOCKETS TO BURN OUT

Sections use the exclusive driQuick lava-coated ceramic type infra-red generators which are immune to shock, vibration and moisture, have an unusually high efficiency rating. Write today for new bulletin giving complete details.

driQuik DIVISION
DRY CLIME LAMP CORP. Greensburg, Ind.

For more details circle NED-417 K5 on enclosed inquiry slip

UP FAST- UP TO LAST

BRADY Self-Sticking

Accident Prevention Signs

Unskilled help puts them up quickly — without nails, screws, or tools. Stick and stay stuck to any surface.

Wordings, colors, sizes, are recommended and approved by ASA and NSC.

Write for Catalog 145-D, free working samples, and name of your distributor.

Self-Sticking Warning Stripes
Applied fast—right off the roll. • You get stripes in 2 colors without paint or brush. • All Vinyl Plastic. • Outlasts paint.
Write for Bulletin No. 143-A and free working samples.

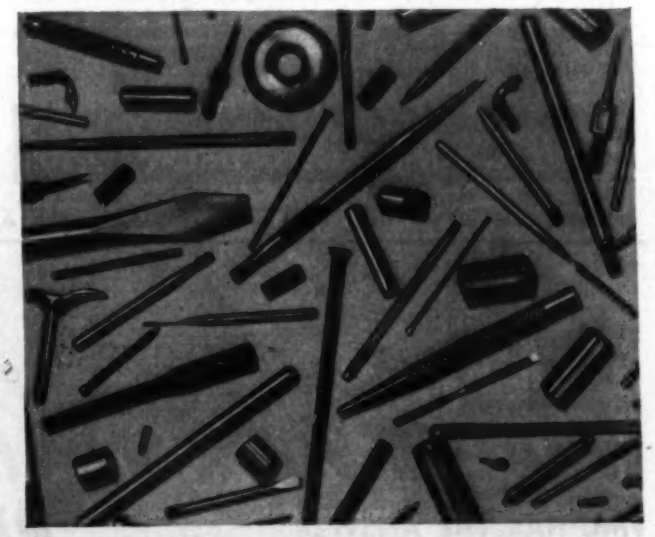
W. H. BRADY CO. 771 W. GLENDALE AVENUE MILWAUKEE 12, WISCONSIN

For more details circle NED-418 K5 on enclosed inquiry slip

One hundred or a million . . .

TORRINGTON

small precision parts are exactly alike



Precision and uniformity go hand in hand at Torrington—regardless of the size of the order.

Automatic equipment of special design, and the know-how gained in almost 90 years of precision metalworking enable us to produce your small precision parts to the highest standards of uniformity.

Let us produce a trial order for you. Send your blueprint or a sample part for our prompt quotation. Ask for our Condensed Catalog. It shows many of the parts we can make *faster, better and for less* than you can yourself.

THE TORRINGTON COMPANY
Specialties Division
808 Field Street, Torrington, Conn.

TORRINGTON SPECIAL METAL PARTS

Makers of Torrington Needle Bearings

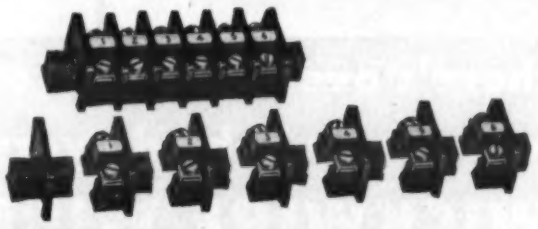
For more details circle NED-419 K5 on enclosed inquiry slip

LARGEST SELLING CUTTERS FOR TOUGH DIE SINKING

You'll find T-J Die Sinking Milling Cutters are top favorites in die and forge shops everywhere today—because they're *extra rugged* . . . produce more work between grinds! Designed for speed, accuracy and long life . . . hold a sharp edge longer . . . less breakage! Made from an extremely high grade steel . . . properly machined . . . scientifically heat-treated and accurately ground. Wide range of styles and sizes . . . T-J dependability! Send for new catalog 4-153. The Tomkins-Johnson Co., Jackson, Mich.

T-J TOMKINS-JOHNSON

▲ For more details circle NED-420 K5 on enclosed inquiry slip ▲



Make Your Own Terminal Strips With Bulletin 892 Terminal Blocks

The Sign of QUALITY Motor Control

Bulletin 892 terminal blocks interlock with each other in perfect alignment to provide the exact number of terminals you need for any panel board.

There are no excess terminals—hence, no waste of panel space. The required length of terminal strip can be assembled quickly and mounted on the control panel with hold-down bolts.

The clamp type terminals are separated by plastic barriers. The blocks are made in two sizes—15 and 25 amps. The two sizes fit together. Send for Bulletin 892, today.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
MOTOR CONTROL

▲ For more details circle NED-421 K5 on enclosed inquiry slip ▲

Now—Lock Your Feed Rates to Protect Machines . . . Reduce Costs with the CROSS Flow Control Lock!

Only authorized personnel carry a key for the Cross Flow Control Lock! They set machine feed rate, then lock it.

Easy to install. Just remove valve nameplate and adjusting lever, re-install over lock mounting plate.

Available for Vickers ¼" flow control valves and remote control panels.

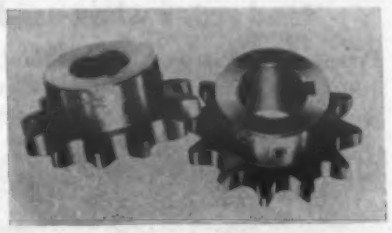
For full details, write Dept. A-310,

- Eliminates Tampering
- Stops Costly Shutdowns
- Prevents Tool Abuse and Breakage
- Protects Machines Against Overloads
- Reduces Maintenance Costs

Established 1898
THE CROSS CO.
DETROIT 7 MICHIGAN

▲ For more details circle NED-422 K5 on enclosed inquiry slip ▲

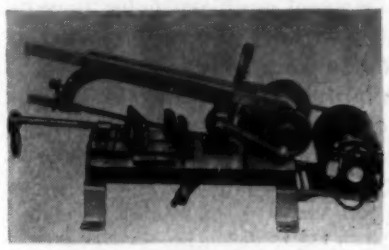
ROLLER CHAIN SPROCKETS
quickly installed without reworking



Finished bore roller chain sprockets, offered in type B single widths, are available from stock for quick installation without reworking. They are made of high carbon steel, ready for hardening, and are offered in a wide range of sizes. Bores range from ⅝ to 2 3/16 in., while the number of teeth per sprocket range from 10 to 24 in ½ through 1-in. pitch. All sprockets have keyway and setscrew, conform to ASA specifications and are interchangeable with other standard single width units. Made by **Morse Chain Co.**, Industrial Sales Div., Dept. 7, Ithaca, N. Y.

▲ For more details circle NED-423 K5 on enclosed inquiry slip ▲

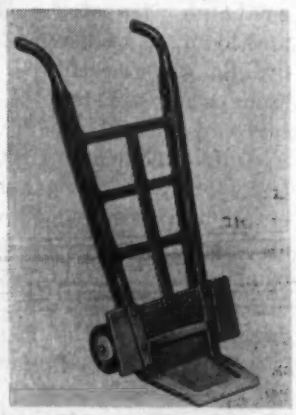
POWER HACK SAW
cuts pipes or rounds up to 4-in. OD



Improved Jefferson 601 power hack saw with 4 x 4-in. capacity will handle pipes or rounds up to 4 in. OD, either on straight or 45-degree angle cut. Either 10 or 12-in. blades can be used. Saw has automatic stop switch, Oilite bearings, adjustable bronze gibs in saw frame, gage bar and latch bar for holding frame when not in use. It is available with or without ¼-hp single-phase, 110-v motor and switch. Made by **Sales Service Machine Tool Co.**, Dept. N, 2363 University Ave., St. Paul 14, Minn.

▲ For more details circle NED-424 K5 on enclosed inquiry slip ▲

HAND TRUCKS
improvements made in 17 models



Wheel sizes and axle locations have been changed in some models in this steel two-wheel hand truck line, providing better balance, easier rolling and making it possible to "break" loaded trucks with little effort. All trucks, 17 sizes and models in all, are now of welded construction for rigidity. Additional improvement is a pressed steel nose. Made by **American Pulley Co.**, 4245 Wissahickon Ave., Philadelphia 29, Pa.

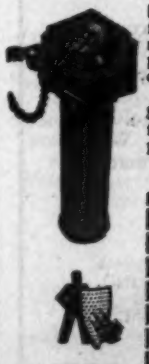
▲ For more details circle NED-425 K5 on enclosed inquiry slip ▲

No More Leaky Drums

No more backing off or forcing faucets beyond a tight thread connection to secure the correct position for pouring. Loose connections or stripped threads cause leaks which are especially hazardous with flammable solvent vapors.

PROTECTOSEAL Self-Positioning Swivel-Spout Faucets prevent these leaks!

Simply screw into drum and secure a firm, tight thread seat. Then swivel pouring spout to the correct position for use. Saves time—saves solvent—provides a tight closure at all times and can be used repeatedly. Will outlast three or four ordinary drum faucets and end the constant expense of replacement.

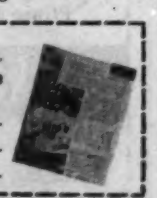


DRUM BUNG FITTING with perforated metal double-wall fire baffle provides automatic pressure relief and vacuum relief. Prevents drum rupture and explosion from vapor pressure within drum—permits smooth, even withdrawal of liquid without adjustment of fitting.

Ask for illustrated catalog "Flammable Liquid Drum Storage and Dispensing", describes all safe practices and fire preventive equipment for delivery, storage and dispensing. *Fill in coupon* and attach to company letterhead.

In Canada: Safety Supply Co., Toronto

The Protectoseal Company
1964 South Western Avenue, Chicago 8, Ill.
Please send informative booklet "Flammable Liquids Drum Storage and Dispensing"
Name_____ Title_____
Company_____ Address_____
City_____ Zone____ State____



▲ For more details circle NED-426 K5 on enclosed inquiry slip ▲

- **Built strong**—for severest plant service.
- **Built simple**—nothing to go wrong.
- **Rigidly tested**—on actual steam lines.
- **User preferred**—Nicholson is known for quality.

3 quality parts: —bellows —body —cap

When less than best won't do, specify Nicholson. Write for Catalog 953.

W. H. NICHOLSON and Company
TRAPS • VALVES • FLOATS • METAL PARTITIONS
14 Oregon Street, Wilkes-Barre, Pa. • Sales and engineering offices in 58 principal cities

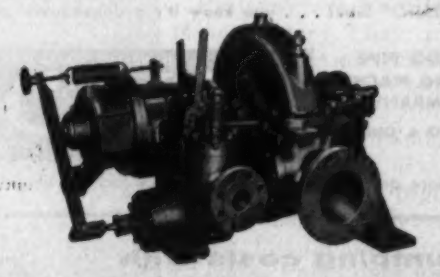
▲ For more details circle NED-427 K5 on enclosed inquiry slip ▲

DE LAVAL

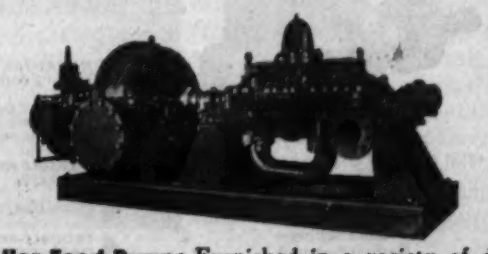
can help cut power costs

You can make important operating economies in your power house with dependable, efficient De Laval equipment. That's because De Laval turbine generators, mechanical drive turbines, boiler feed pumps and centrifugal pumps are designed for long, low-cost service. If you plan to modernize or expand your present facilities, consult a De Laval field representative or ask for the De Laval catalogs or bulletins listed below.

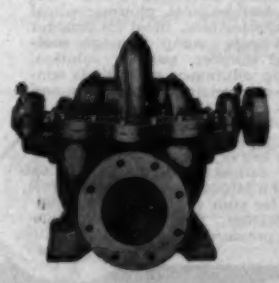
Turbine Generators Up to 11,500 kw. Available in automatic extraction designs. *Send for De Laval Catalog 4200A.*



Mechanical Drive Turbines For induced and forced draft fan drives, condensate and circulating and boiler feed pump drives. New De Laval HCB turbine available from stock. *Send for Bulletin 4206.*



Boiler Feed Pumps Furnished in a variety of designs and sizes to meet any boiler feed service. *Send for De Laval Bulletin 1502.*



Single Stage, Double Suction Centrifugal Pumps for condenser circulating and general services are available in capacities from 50 to 75,000 gpm. *Send for De Laval Bulletin 1002.*

DL-238

DE LAVAL STEAM TURBINE COMPANY
808 Nottingham Way, Trenton 2, New Jersey

▲ For more details circle NED-428 K5 on enclosed inquiry slip ▲

fast...
positive...
economical

DECKER

MIDLAND
WELD
NUTS
COLD HEAD
PROCESS

Decker Weld-Nuts are manufactured to meet your demands for a better, faster, more positive method of parts assembly. Like all Decker Industrial Fasteners, Weld-Nuts are produced via the cold-head process to assure a uniform quality and exceptional economy. Decker Weld-Nuts are available in three basic types and a broad range of sizes to meet every conceivable need.

Study your production applications now and see for yourself the many operations where Weld-Nuts could save your production time and dollars.

Then...write for sample fasteners, as well as your copy of Decker's new illustrated Industrial Fastener catalog!

OTHER DECKER
INDUSTRIAL FASTENERS

dm DECKER MANUFACTURING CO.
ALBION MICHIGAN

▲ For more details circle NED-429 K5 on enclosed inquiry slip ▲

It's Amazing!
The TOLEDO NO. 78
VERMETTE
POWER
DRIVE

★ WEIGHS ONLY 75 POUNDS
A real heavy-duty, lightweight
★ RAPID, POSITIVE CHUCKING
Grips like a pipe wrench — self centering
★ CONSERVES TIME AND ENERGY
The most advanced and versatile machine on the market
★ BETTER BUILT TO LAST LONGER
No belts — sturdy — powerful

A time proved, PORTABLE power drive providing effortless cutting, threading and reaming of pipe and conduit . . . a worthy addition to "TOLEDO's" well known line of quality pipe tools. Fully guaranteed. Handles up to 2" sizes . . . grips, tightens and centers pipe automatically, forward or reverse. It's the lightest portable power drive of its kind. And remember . . . if it bears the "TOLEDO" label . . . you know it's a dependable product.

TOLEDO PIPE THREADING MACHINE COMPANY
TOLEDO 4, OHIO

BUILDERS OF THE WORLD'S FINEST PIPE TOOLS
TOLEDO
PIPE THREADERS • PIPE WRENCHES • PIPE MACHINES

▲ For more details circle NED-430 K5 on enclosed inquiry slip ▲

cut pumping costs with
JABSCO INDUSTRIAL PUMPS

◀ INSTANTLY SELF-PRIMING
◀ SIMPLE, COMPACT, ONLY ONE MOVING PART
◀ DURABLE NEOPRENE IMPELLER
◀ SELF-LUBRICATED
◀ TROUBLE-FREE OPERATION

Model 2810
316 S.S. Construction—
Teflon Packing—
Carbon Bearings

JABSCO PUMPS

HERE'S another Jabsco industrial pump—designed and built for chemical, pharmaceutical and other industrial applications. Ideal for transfer of various liquids and acids—sump drainage, coolant pumping, general transfer, pulp in solution, filtering, brines, plating solutions—even fluids containing foreign matter or particles, silt, crystals, and other gritty materials. Bronze, stainless steel or plastic construction is available to *solve your specific* pumping problems.
Pumps either light or heavy viscous liquids. Temperature ranges from 35° to 180° F. Write for a Jabsco factory recommendation for your own needs. Specify application, fluid pumped, temperature, pressure, etc.

FREE—send for catalog sheets, detailed information... no obligation, of course!

PATENTED AND PATENTS PENDING

JABSCO PUMP COMPANY
2031 Lincoln Street, Burbank, California

▲ For more details circle NED-431 K5 on enclosed inquiry slip ▲

HYDRAULIC RESISTANCE UNIT accurately controls and maintains feed rates when used with air motors

Preset feed rate can be maintained with virtually 100 per cent accuracy, unaffected by changes in temperature, load and air line pressure, by the DCP-50A

precision control Hydro-Check, a self-contained hydraulic resistance unit. It is primarily used with Bellows air motors in applications where extreme accuracy of movement is required. Unit features automatic flow and thermal compensation.

Sintered metal filter breaks up any minute residual air bubbles in the fluid, insuring a smooth flow action. Accurate adjustable feed rate control from zero to the normal velocity of the controlled machine element is possible. Optional auxiliary valve permits interrupting the control for uncontrolled movement through any parts of the power stroke.

Hydro-Check is available in standard stroke lengths of 2, 4, 6, 9, 12, 15 or 18 in., with control on either forward or retract stroke, or both. Made by **Bellows Co.**, 230 W. Market St., Akron 9, O.

▲ For more details circle NED-432 K5 on enclosed inquiry slip ▲

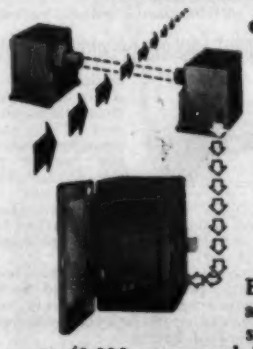
OIL FILTERING UNIT also flushes hydraulic systems

Contaminates as small as ½-micron are removed from hydraulic oil by this compact mobile filtering unit. The Hydra-Filter can also be used for flushing hydraulic systems, transfer and handling of hydraulic oil directly from drums and for test operating of hydraulic systems. Unit consists of gear pump, electric motor, control panel with gages, flow meter, reservoir and connecting lines. Reservoir and all piping are noncorrosive. Filtering system consists of one comb type, one magnetic type and seven micronic disk type filters. Pump capacity is 3.5 gpm, external flushing capacity is 10 gpm and reservoir capacity is 55 gal. Normal operating pressure is 50 psi at 3.5 gpm. Pressure with an external pump is 150 psi. Made by **Wiesner-Rapp Co.**, Farnham Mfg. Div., 1610 Seneca St., Buffalo 10, N. Y.

▲ For more details circle NED-433 K5 on enclosed inquiry slip ▲

news notes from Berkeley division
BECKMAN

NOW—HIGH SPEED INDUSTRIAL ELECTRONIC COUNTING SYSTEM



only $335.00 complete!

★ Easily installed and maintained by plant electrician
★ Count rate, 125 per second; 7-digit capacity
★ Photocell-pickups operate at distances from 3" to 6'
★ Heavy waterproof case with tamper-proof transparent cover

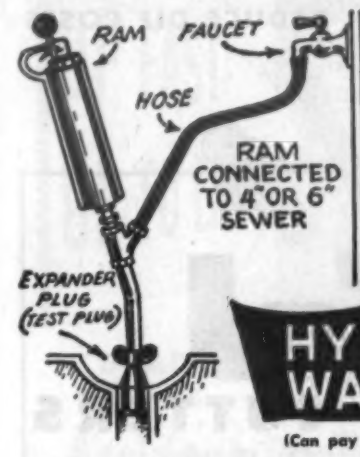
BERKELEY industrial counter and preset counter-controller systems available in count rates to 40,000 per second. Ideal for counting, controlling high speed stamping, punching, tableting, molding, shearing, cutting, weighing operations, etc. Write today for application data, complete information. Please address Dept H-10

Berkeley division
BECKMAN INSTRUMENTS INC.
2200 Wright Avenue • Richmond 3, Calif.

61

▲ For more details circle NED-434 K5 on enclosed inquiry slip ▲

Enjoy 30 Day Free Trial!



Easily clears the most stubborn drain and sewer stoppages

The ideal plumbing service tool for maintenance men!

HYDRAULIC WATER RAM
(Can pay for itself in one application)

Why lose time, suffer inconvenience, waste dollars on needlessly costly plumbing service? The Hydraulic Water Ram clears severest blocked drain lines and sewers in minutes. No chemicals, no snakes, no electric cables, no pushing through. Saves costly outside help, or expensive torn up piping. Uses IMPACT, a basic scientific principle of POSITIVE HYDRAULIC POWER. Shatters hard grease, debris, other blockage into fragments easily flushed down to main. Works perfectly, *vent or no vent!* Services up to 6" pipe. Works perfectly on all types of clogged toilets, sinks, sewers, etc. Can pay for itself in a single application. Nothing to wear out. Good for a lifetime. Thousands in use, including over 3,000 in government agencies. You risk nothing. Write for details on how to get free 30 day trial at our expense.

Write for Information, Prices, Details of Free Trial Offer!

HYDRAULIC MANUFACTURING CO.
Dept. ND-10 Kiel, Wisconsin

▲ For more details circle NED-435 K5 on enclosed inquiry slip ▲

there's over a century of know-how behind every
WICKWIRE WIRE ROPE SLING

Over a century of knowledge and experience gained in the manufacture of Wickwire Rope has been incorporated into the fabrication of Wickwire Wire Rope Slings. You are assured of materials of the highest quality. And in using wire rope slings, there can be no compromise with quality. Too much is at stake—the safety of the handling crew, possible damage to costly materials and loss of productive time.

Wickwire Slings are made from wire rope and fittings with matched rated capacities.

SEND FOR YOUR WICKWIRE SLING CATALOG TODAY

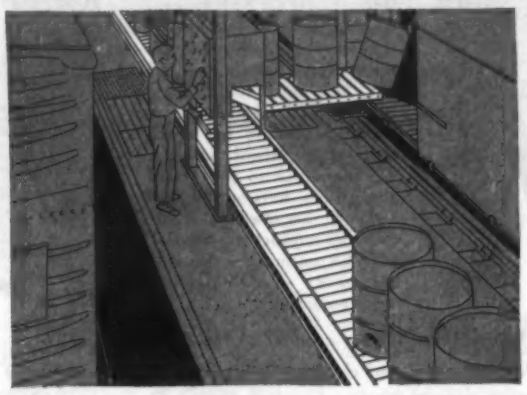
CF&I WICKWIRE
WIRE ROPE SLINGS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION
2962

THE COLORADO FUEL AND IRON CORPORATION—Abilene (Tex.) Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
PACIFIC COAST DIVISION—Los Angeles • Oakland • Portland • San Francisco • Seattle • Spokane.
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga Chicago • Detroit • Emlenton (Pa.) • New Orleans • New York • Philadelphia

▲ For more details circle NED-436 K5 on enclosed inquiry slip ▲

Live Roller Conveyers Play an Important Part in Many Continuous-Flow Handling Systems

ELLWOOD CITY, PA.—Many manufacturers are discovering live roller conveyers to be the answer to their package conveying problems. It is possible to deflect loads and hold them on the live roller conveyers without stopping the conveyer—they can be reversible and operated at whatever speed required. *Mathews* Live Roller Conveyers can be belt- or chain-driven, hung close to the ceiling, set at working height on the floor, or can operate between buildings. Call your nearby *Mathews* representative, or ask for complete information. Write MATHEWS CONVEYER COMPANY, Ellwood City, Pa.



50th Anniversary MATHEWS CONVEYERS 1905-1955

MATHEWS

▲ For more details circle NED-437 K5 on enclosed inquiry slip ▲

YEAR 'ROUND PROTECTION

CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather...preventing accidents... insuring against loss of heat or refrigeration. 51 different models in any size for every loading problem.

Write for literature and name of nearest distributor.

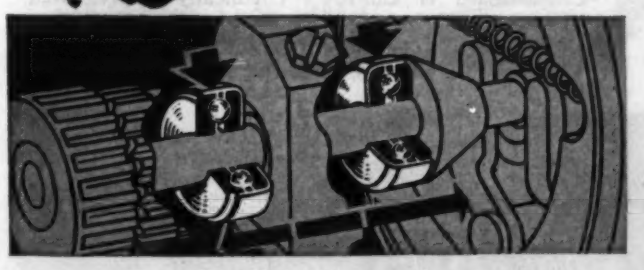
CAPCO

622-24 PROSPECT AVENUE • KANSAS CITY 24, MISSOURI

▲ For more details circle NED-438 K5 on enclosed inquiry slip ▲

HARTFORD THRUST BEARINGS

help to give the new ROYAL ELECTRIC TYPEWRITER "The Light Touch"



The Royal clutch unit depends upon Hartford Thrust Bearings to achieve smooth, instantaneous response to a critical adjustment on the carriage return. *Yoke pressure is applied to the clutch nose through the thrust bearing, transmitting the yoke pressure and driving shaft speed to the clutch nose instantaneously without retarding friction.* It is just one of several important *Hartford* bearing applications in every Royal typewriter. If you have a bearing problem that requires precision balls, retainers or bearings made to your specifications, it will pay you to consult with *Hartford* engineers.

Hartford PRECISION BALLS • BEARINGS

The Hartford Steel Ball Co., Inc., 9 Jefferson Ave., W. Hartford 6, Conn.

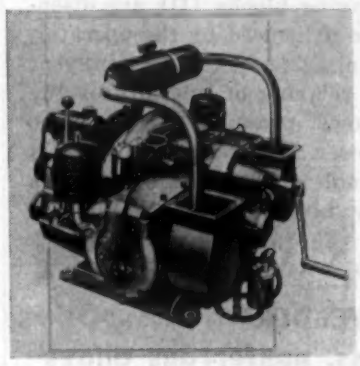
▲ For more details circle NED-439 K5 on enclosed inquiry slip ▲

ADJUSTABLE CHAIR back rest assembly improved

Addition of two push nuts to the ends of the back rest rods, one on each side, improves back rest assembly of this adjustable chair. Nuts keep rods from dislodging in their mounting brackets which are located under the Ajustrite seat. They make the back rest a permanent assembly. Full 5-in. horizontal adjustment of back rest has been retained. Made by **Ajusto Equipment Co.**, Dept. D, 2144 Madison Ave., Toledo 2, O.

▲ For more details circle NED-440 K5 on enclosed inquiry slip ▲

AIR-COOLED DIESEL ENGINES in single and twin-cylinder models



Line of small Enfield diesel engines includes two single cylinder units of 568 and 785 cu cm displacement and two flat twin-cylinder engines of 1135 and 1570 cu cm displacement. All can be supplied as marine, stationary or portable models. Efficient cooling, accomplished by fan integrally cast on flywheel, allows engines to be operated at up to 130° F. Available from **British Marine Products, Ltd.**, Dept. EE, Port Washington, N. Y.

▲ For more details circle NED-441 K5 on enclosed inquiry slip ▲

PARTS RACK has 19 removable containers

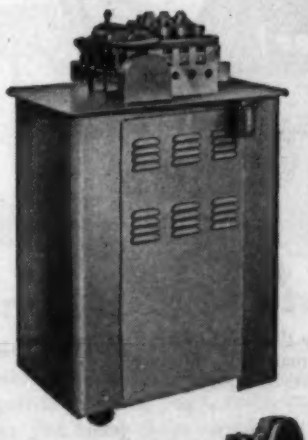
Handling and storage of a wide variety of standard parts, hardware and fittings is possible in this No. 19HD heavy duty parts rack. It has 15 removable containers measuring 6 x 8 x 6 in. and four measuring 10 x 20 x 6 in., suspended on a 56 x 42½ x 12-in. steel rack. Containers are built of 16-gage steel and each has a label holder. Made by **Service Parts Systems, Inc.**, 13383 E. Nine Mile Rd., East Detroit, Mich.

▲ For more details circle NED-442 K5 on enclosed inquiry slip ▲

Economy • Dependability

WITTEK

STOCK STRAIGHTENERS



Used in conjunction with a reel stand and automatic feed for punch presses, the Wittek Stock Straightener is a self-contained, motor-driven unit designed for maximum efficiency in the continuous straightening of coiled stock. Standard models handle stock with widths up to 12 inches. An infinitely variable speed drive permits any desired straightening speed so that the proper slack is maintained in the straightened strip between the unit and the press feed.

This typical Wittek automatic production feeding setup includes —Wittek roll feed mounted on the punch press, Wittek stock straightener, and Wittek self-centering reel stand.

Write for full particulars

WITTEK Manufacturing Co.

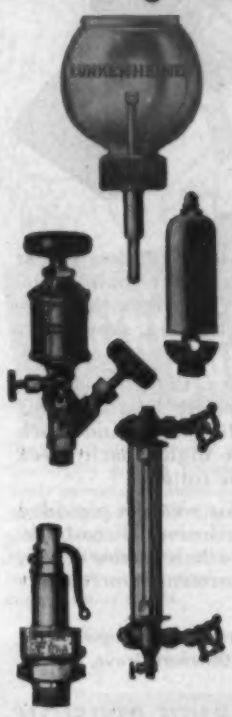
4325 W. 24th Place • Chicago 23, Illinois

Production Feeding Equipment

8577

▲ For more details circle NED-443 K5 on enclosed inquiry slip ▲

LUNKENHEIMER Engineering Devices



Time-Tested Protection For Valuable Equipment

Lunkenheimer Engineering Devices keep costly equipment running efficiently. Lunkenheimer Bottle Oilers insure perfect lubrication for bearings and moving parts which are hard to reach and therefore often neglected. Other Lunkenheimer Engineering Devices . . . pop safety valves, relief valves, air nozzles, gauges, cocks, whistles . . . are built to the same high standards that have made them the standard of comparison since 1862. We'll be pleased to demonstrate the complete line of dependable Lunkenheimer Engineering Devices.

LUNKENHEIMER THE ONE Great NAME IN VALVES

L-153-38

CINCINNATI 14, OHIO

▲ For more details circle NED-444 K5 on enclosed inquiry slip ▲

always VISIBLE ...always ACCESSIBLE!

Make your floor space do double, triple—even quadruple duty—by warehousing your working storage or inventory in USP Palletainers. Only Palletainers offer you so many recognized advantages for the transport, safe stacking, storing of your materials.

Palletainers handle *anything* better! They increase your production efficiencies, improve your plant's appearance and quickly pay for themselves in man hours and space saved.

Palletainers are practically indestructible—built to endure rough, fast handling for years to come. Palletainer users tell us they estimate their units *minimum* life span at 8 to 10 years. They are available in a wide range of sizes, types, styles and loading capacities from 500, 1250, 2000, 4000 and 6000 pounds per unit.

Why not see for yourself how many places USP Palletainers could save you time, money and effort in *your* plant. USP will supply standard Palletainers for 60 day testing upon request.

PALLETAINERS

manufactured by UNION STEEL PRODUCTS CO. ALBION, MICHIGAN

Gentlemen: Please send me my copy of the big, new illustrated USP Palletainer booklet at once.

Name _____ Title _____

Company _____

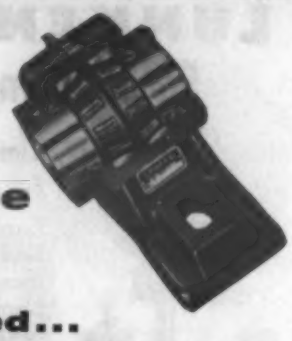
Address _____

City _____ Zone _____ State _____

☐ Please have your Palletainer representative contact me.

USP

▲ For more details circle NED-445 K5 on enclosed inquiry slip ▲



To cut Maintenance Cost

You Need...

Self-Aligning advantages of Shafer Roller Bearings that instantly compensate for shaft deflections. In ordinary bearings this misalignment causes binding, skewing... power loss.

High Capacity...of Shafer ConCaVex, the original low friction, high capacity bearing. This design carries radial, thrust and shock loads in the same high-capacity area in the center of the roller.

Easy Adjustment...to compensate for wear as provided by the Shafer exclusive Micro-Lock. With nothing more than a screw driver, you can make adjustment in increments of .007".

Send for Catalog 51. Shafer Bearing Division, 801 Burlington Ave., Downers Grove, Illinois.

SHAFER BEARING DIVISION

CHAIN BELT COMPANY

For more details circle NED-447 K5 on enclosed inquiry slip

PORTABLE MIXER for fluids makes any open vessel a high-speed mix tank

Say goodbye to slow, costly hand stirring of fluids. You can mix, blend, stir, dissolve or suspend solids, in any open container, with a LIGHTNIN Portable Mixer.

Just clamp the mixer to the tank, adjust to the proper angle, and get powerful double-action mixing that tumbles and rotates the batch thoroughly.

You can get a LIGHTNIN in the right size for your needs—30 models, ⅛ to 3 HP. Thousands of LIGHTNINs are in use, many 20 years and more. Fully guaranteed.

For free recommendation, just tell us what you want to mix, and how fast. Also request Catalog B-108, fully describing LIGHTNIN Portable Mixers.

TURBINE-TYPE UNIT mixes large batches efficiently

Get exact mixing action you want, with a Series "E" LIGHTNIN Mixer. For open or closed tanks; top or bottom entering. Sizes 1 to 500 HP. Hundreds of standard power-speed combinations. Fully guaranteed. For complete description, request Catalog B-102.

SIDE ENTERING MIXER mixes millions of gallons

Turn over 6 million gallons of fluid rapidly, thoroughly, with LIGHTNIN Side Entering Mixers. Sizes 1 to 25 HP. Fully guaranteed. For details, request Catalog B-104.

Complete application engineering service. For details, write us today.

Lightnin® Mixers

MIXING EQUIPMENT Co., Inc.

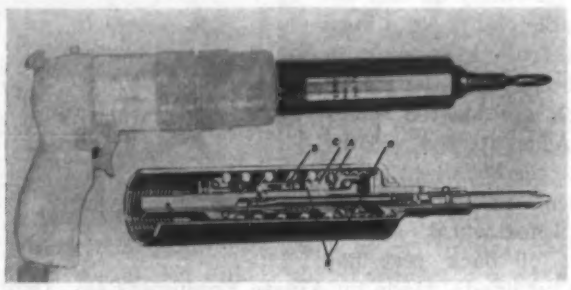
165-k Mt. Read Blvd., Rochester 11, N. Y.

In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

For more details circle NED-448 K5 on enclosed inquiry slip

TORQUE CONTROL CLUTCH for power screwdrivers and multiple spindle drills

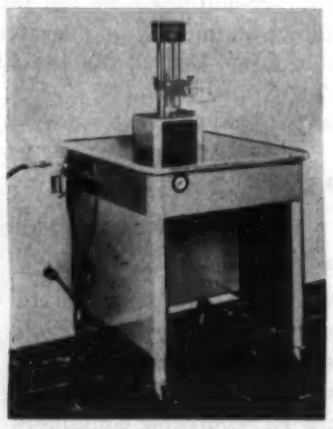
Torque limiter (A) incorporated in this torque control clutch for power screwdrivers makes it impossible for the unit to produce any impact effect on a



screw or nut. Completely automatic in operation by use of a sequential clutch arrangement (B), it drives as a solid member, then goes into "free wheeling" when the proper predetermined torque is reached. Clutch re-engages the torque sensitive mechanism (C) when it is removed from the work, but after the front bit holder engaging blocks (D) are disengaged. Limiter cannot be influenced by the operator, and the negative angle engaging blocks (E) prevent accidental release due to relaxing of pressure by the operator or fluctuating power pressure. Unit can be used on any available power source from hand tools to automatic multiple spindle drills. Torque range is 5 to 85 lb-in. Made by **Livermont, Inc.,** Maple & Myrtle, Monrovia, Calif.

For more details circle NED-449 K5 on enclosed inquiry slip

STORED-ENERGY WELDER handles stainless, nonferrous alloys



Stored-energy power principle of the heavy duty Weldmatic 1020 welder permits millisecond weld-time at discharge rate of 150 kw, instantaneous. Welder is complete with power supply and air system built into the console. Legs extend to accommodate sitting or standing worker. With stainless steel, unit handles sheets from 0.0005 to 0.035-in. thick and wire from 0.001 to 0.095-in. diameter. It welds copper alloy, or aluminum sheets from 0.0003 to 0.020-in. thick and wire in diameters of 0.001 to 0.060-in. Output current is 7000 amp crest value, and output voltage is 1 to 21 v crest value. Welder plugs into any 115-v ac outlet and will produce 60 to 75 welds per minute, continuous duty. Made by **Unitek Corp.,** Dept. NED, 275 N. Halstead Ave., Pasadena 8, Calif.

For more details circle NED-450 K5 on enclosed inquiry slip

This Conveyor will serve you better — longer!

Weld-Bilt STEEL-BELT CONVEYORS

If you will compare the advantages of this "moving belt of interlocking steel", you can readily see why the WELD-BILT is today's most important new aid to materials moving . . . Far superior to other types of conveyor equipment.

HERE'S WHY —

POSITIVE TRACKING — always runs in a straight line — no weaving, buckling, stretching, creeping.

SLIP PROOF DRIVE — Weld-Bilt steel sprocket positive-engagement drive avoids any chance of slippage — for positive, accurately timed movement at any selected speed.

UNLIMITED BELT LIFE — Weld-Bilt conveyor surfaces are solid sheets of heavy steel or stainless steel to carry heaviest, roughest loads through years of service with minimum replacement expense.

FRICTION — NIL! — Individual links ride on ball bearing rollers in grease sealed raceways — for easier, smoother operation — at low power cost.

WRITE FOR BULLETIN AND FURTHER DETAILS. | **WEST BEND EQUIPMENT CORP.** *Materials Handling Engineers*

311 Water Street, West Bend, Wisconsin.

For more details circle NED-451 K5 on enclosed inquiry slip

FOR COMPLETE PROTECTION

FROM THE WET • GREASE • OILS • ORDINARY ACIDS

TOWER'S FISH BRAND *NEOPRENE

These sturdy, durable, 100% DuPont **NEOPRENE** garments give that extra service to those who require protection from greases, oils, and most acids. There is a TOWER garment especially adaptable for every type of industrial activity. We manufacture protective coats, suits, hats and aprons and will be glad upon request to suggest the type of TOWER garment which will best meet your individual requirements.

*A chemical rubber product of the DuPont Company

For folder of styles and detailed information write Department SF.

NEOPRENE RUBBER

TOWER'S FISH BRAND — **A. J. TOWER CO.** — TOWER'S ARROW BRAND

24 SIMMONS ST. BOSTON, MASS.

For more details circle NED-452 K5 on enclosed inquiry slip

For Jobs That Take BIG LIFTS

LeTourneau builds BIG HOISTS

CAPACITIES FROM 3 TONS UP

LeTOURNEAU ELECTRIC HOISTS GIVE ABSOLUTE CONTROL and Precise Spotting of Big Loads. Motor develops maximum torque instantly — *moves* rated loads for even momentary switch contact. Regenerative electric braking automatically controls speed during powered lowering. Instant-acting, motor-synchronized brakes stop and hold capacity load exactly where you want it.

MATCHED COMPONENT DESIGN. All major parts designed and manufactured by LeTourneau to *work together.* Helical gears, all-welded construction.

Write or call for bulletin on LeTourneau Big-Lift Hoists

LETOURNEAU — R. G. LeTOURNEAU, INC. 25610 S. MacArthur, Longview, Texas — LET Equipment

MANUFACTURERS OF BIG EQUIPMENT SINCE 1929

F-111

For more details circle NED-453 K5 on enclosed inquiry slip

CAN YOU THINK OF A BETTER WAY TO HANDLE MATERIALS?

CONVOY'S CHEMBOARD* SELF-STACKING TOTE BOXES *MAY BE YOUR ANSWER*

Convoy Boxes are LOW COST, STRONG and LIGHT WEIGHT . . . are made in a wide range of stock sizes and shapes. They weigh and cost less than 40% of steel.

*Chem-Board is Convoy's chemically impregnated corrugated board . . . flint-hard, rock-strong.

Here's an example of Convoy Self-Stacking Boxes speeding production, conserving space, saving money.

GET IN TOUCH WITH

CONVOY, INC.

CANTON 6, OHIO

P. O. Station B, Box 216-N

STANDARD AND CUSTOM-MADE NESTING, STACKING, and VERTICAL-SIDED CHEM-BOARD TOTE BOXES

For more details circle NED-454 K5 on enclosed inquiry slip

Powered by the press ram... independent of the die

2 SIZES Cuts steel up to 1/16" thick

3" WIDE $69 **6" WIDE $95**

Guaranteed — money back if not 100% satisfied

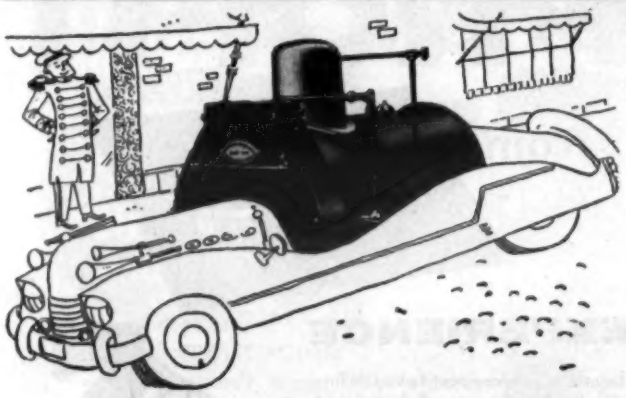
New LOW prices on the JACO AUTOMATIC STOCK REEL

WRITE FOR FULL DETAILS TODAY!

Dealer Inquiries Invited

JACO DEVICES, INC.
95 High St. • Hingham, Mass.

▲ For more details circle NED-455 K5 on enclosed inquiry slip ▲



A Boiler Is Not an Automobile

Styling, gadgets and gimmicks may help sell automobiles. But a boiler is a long term investment; reliable performance, low operating costs and long life are the vital considerations. That's why we're sure that if you carefully examine *all* the facts you'll choose a Leffel Scotch-Type Boiler. We'd like to show you the records on many Leffel boilers which have been operating for 30 years or more with only a few dollars spent on maintenance items. Drop us a line today; we'll give you the complete story. Fast.

THE JAMES LEFFEL & CO. Dept. N Springfield Ohio

▲ For more details circle NED-456 K5 on enclosed inquiry slip ▲

FOR COMPLETE PARTS-HANDLING SYSTEMS . . .

SORTING
COUNTING
ORIENTATION
FEEDING
MACHINING
FINISHING
INSPECTION
ASSEMBLY
WEIGHING
CHECKING
PACKAGING

As far as we know, and we have assisted hundreds of manufacturers with their parts-handling problems, we at KDI are unique in the scope of our services.

Our engineers design and build and pilot-run complete systems—from bulk parts supply to machined, inspected, packaged assemblies—all in our own shops. One integrated organization . . . one undivided responsibility.

We invite your consideration of these advantages in your next parts-handling problem. Call, or write, or send us parts together with delivery rate, orientation, and other necessary data.

kdi kraus design, inc.
964 EXCHANGE ST., ROCHESTER 8, NEW YORK

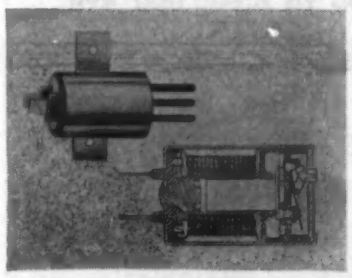
▲ For more details circle NED-457 K5 on enclosed inquiry slip ▲

EXPLOSION-RESISTANT OVENS
in temperature ranges to 260° C

Series of explosion resistant ovens can be used where ambient as well as oven chamber atmosphere is contaminated with inflammable and explosive vapors. Ovens are made in floor and table models and in two temperature ranges to 260° C. Chamber capacities are 1 to 18 cu ft. Wiring and electrical equipment in ovens are sealed in explosionproof fittings and conduit conforming to Class 1 Group D requirements. Made by **Electric Hotpack Co.**, 5063 Cottman St., Philadelphia 35, Pa.

▲ For more details circle NED-458 K5 on enclosed inquiry slip ▲

ENCLOSED RELAY
available for 6 to 115 v ac or dc



Developed for use in major appliances, this relay is completely enclosed in a metal case and plugged with molded Bakelite on contact end for protection against moisture and dust. The three contact leads have female A.M.P. terminals; the coil has two male terminals. Relay is available for 6 to 115 v ac or dc. Contacts are rated 8 amp at 115 v, noninductive and are arranged single pole, double break. Unit measures only 2 11/32 x 1 7/32 x 1 7/32 in. Made by **Guardian Electric Mfg. Co.**, 1621-I W. Walnut St., Chicago 12, Ill.

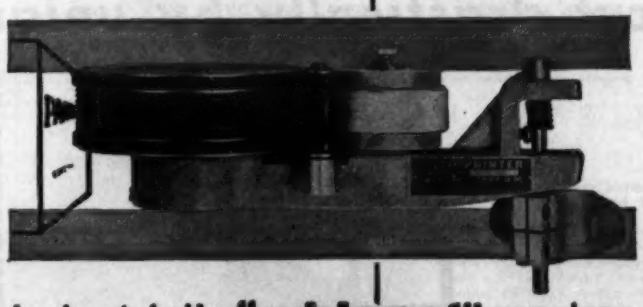
▲ For more details circle NED-459 K5 on enclosed inquiry slip ▲

EYE SHIELD
vision range is 180 degrees

Replaceable foam rubber sweatband and weight of only 1½ oz are features of the Secureye shield for use during grinding, chipping, riveting, drilling and similar operations. It is made of transparent clear or transparent green nonshattering Lumarith with an opaque green visor to eliminate overhead glare. Range of vision is 180 degrees. Available from **Pulmosan Safety Equipment Corp.**, Dept. NED, 644 Pacific St., Brooklyn 17, N. Y.

▲ For more details circle NED-460 K5 on enclosed inquiry slip ▲

HERE'S HOW YOU CAN SIMPLIFY marking dating coding



industrial's "whippet" marker

Easily installed on your conveyor line, the "Whippet" eliminates expensive hand stencilling — automatically imprints cartons, bags, rolls, cans, containers and packages as you need them — during production line runs. Saves inventory, pre-printing, storage costs. Non-oscillating friction operated head uses interchangeable self inking rubber type — works non-stop at production line speeds.

Proved practical and economical on almost any production line marking problem, "Whippets" are so simple and well designed that they serve faithfully and profitably with little or no attention. See how they can improve your operation. *Write for details and catalog today! Dept. NED*

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
454 BALTIC STREET, BROOKLYN 17, N.Y. MAin 4-7361

▲ For more details circle NED-461 K5 on enclosed inquiry slip ▲

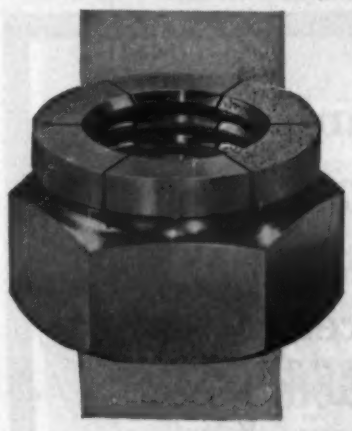
Tame your roaring ~~lions~~ lines with
BURGESS-MANNING SNUBBERS

They are individually designed, on thoroughly proved principles, to effectively correct any intake or exhaust noise caused by the flow of air, steam, or other gases. Stop that noise — profit through better neighbor and employee relations — eliminate costly oral errors — avoid compensation claims.

Tell us your noise problem and let us recommend—no obligation.

BURGESS-MANNING COMPANY
Sound Engineering 755 East Park Avenue, Libertyville, Illinois
Dallas, Texas

▲ For more details circle NED-462 K5 on enclosed inquiry slip ▲



specify standard FLEXLOC

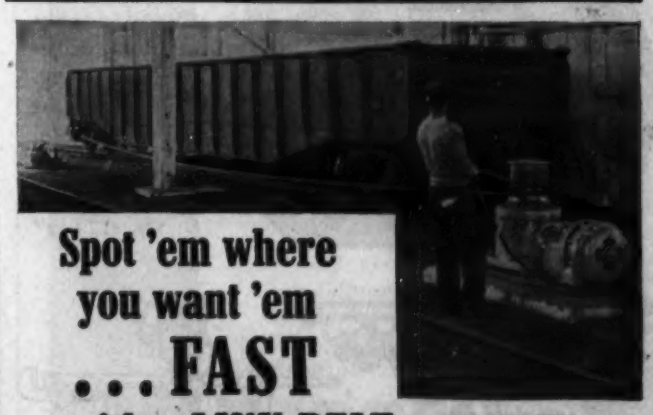
SELF-LOCKING NUTS

FLEXLOC DESIGN FEATURES	one-piece, all-metal construction	lock and stop nut in one
	resilient locking segments	every thread carries its full share of load
	controlled locking torques	

DO YOU KNOW? Because they have resilient locking segments, FLEXLOCs can be used effectively on bolts of varying diameter tolerances. The resilient segments accommodate themselves to the diameter of the bolt. And FLEXLOCs are stocked in a full range of sizes from #4 to 2" by authorized industrial distributors. Write for Bulletin 866. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

FLEXLOC LOCKNUT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-463 K5 on enclosed inquiry slip ▲



Spot 'em where you want 'em . . . FAST with a LINK-BELT car spotter

As quickly as one man can wind two or three turns of rope around the motor-driven capstan, your cars can be spotted easily . . . exactly. Reduces switching and demurrage time . . . releases manpower for other jobs. Get all the facts. Now!

WRITE TODAY for this comprehensive free book

LINK-BELT COMPANY
307 N. Michigan Ave.,
Chicago 1, Ill.

Please send me 24-page illustrated Book 2092.

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Firm .....
Address .....
City ..... Zone .... State .....

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free! SEND TODAY FOR THESE FIELD REPORTS ON

MOLYKOTE® LUBRICANTS

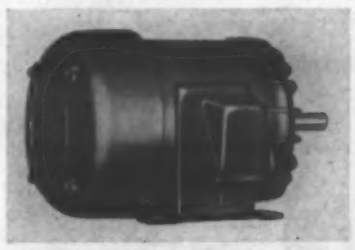
Write For Them By Number

Hundreds of actual case histories from our customer files . . . a "must" in industrial lubrication . . . don't hesitate . . . write today.

The ALPHA MOLYKOTE Corporation
Main factories:
66 Harvard Avenue, Stamford, Conn.
71 Arnulfstrasse, Munich 19, Germany

▲ For more details circle NED-465 K5 on enclosed inquiry slip ▲

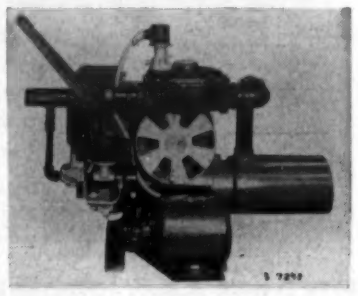
TOTALLY ENCLOSED MOTORS for dusty or fume-laden atmospheres



Line of rerated totally-enclosed, fan-cooled motors now in production includes units in the 1-to-5 hp series, for both single phase and polyphase operation. Shown is the 5-hp unit recommended for use in dirty, dust, fume and mist-laden atmospheres. Motors meet all NEMA requirements and feature an almost indestructible aluminum rotor, ventilating fan designed to operate in either direction, six-layer insulation for stator windings, use of plastic coated wire and brackets for bolting motor to machine or machine to motor. Made by **Century Electric Co.**, 1812 Pine St., St. Louis 3, Mo.

▲ For more details circle NED-467 K5 on enclosed inquiry slip ▲

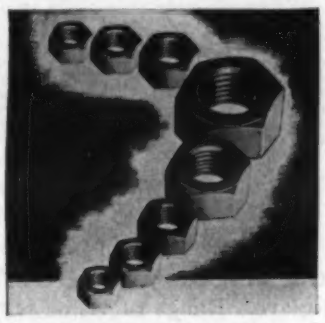
INDUSTRIAL GAS BURNERS deliver 720,000 to 8,600,000 Btu



Line of industrial gas burners includes six models ranging in capacities from 720,000 to 8,600,000 Btu. They can be used for gas alone, for No. 2 grade light oil and gas and a combination of No. 5 grade heavy oil and gas. All secondary air in burners is furnished by the burner. Oil and gas interchange is accomplished by flip of a switch. Air is controlled through damper modulating between high and low fire. Made by **Cleaver-Brooks Co.**, Burner Div., Dept. NED, 326 E. Keefe Ave., Milwaukee 12, Wis.

▲ For more details circle NED-468 K5 on enclosed inquiry slip ▲

SEMIFINISHED NUT hot formed type made in 10 sizes



Tool marks, rough edges and pitted cold work areas are nonexistent in semifinished hot formed nuts made by an upsetting process. Made to close tolerances and said to be geometrically perfect, they are available in ten sizes from ½ to 1½ in. They can be galvanized, plated or painted. Proof loads according to ASTM standards range up to 210,000 lb. Made by **Pittsburgh Screw & Bolt Corp.**, Dept. NED, Box 1708, Pittsburgh 30, Pa.

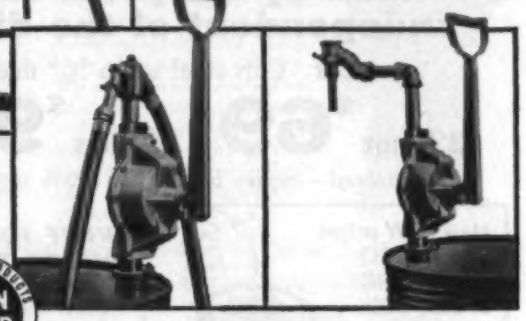
▲ For more details circle NED-469 K5 on enclosed inquiry slip ▲

Versatile . . . High Efficiency

BENNETT BIG G TRANSFER PUMPS

Handle up to 20 gallons per minute of a wide range of liquids. High performance, because each stroke is pumping stroke. Bronze automotive type pistons, end valve and leather troubles. Write for details.

Bennett BIG G can be ordered for drum mounting or with tripod and suction hose



JOHN WOOD COMPANY
BENNETT PUMP DIVISION • Muskegon, Michigan
In Canada: Toronto • Montreal • Winnepeg • Vancouver

▲ For more details circle NED-471 K5 on enclosed inquiry slip ▲

PROFIT from Robo-Lift

EXPERIENCE

Gentle, clean, compact Robo-Lift handling of free-flowing solids and powder improves production, cuts costs and reduces delays! That's Robo-Lift *user experience*, proved in successful installations nationwide.

The outstanding performance and efficiency of Robo-Lift methods and equipment . . . developed through specific *field experience* applied by engineers using modern facilities . . . can save time, trouble and money for you, too.

If you want better handling at lower cost for bigger profits, include Robo-Lift advantages on your production line. For information, may we have the details of your problem? Send them today!

This operation clearly demonstrates Robo-Lift utility. One unit supplies two to either of two blenders on demand. A second Robo-Lift receives it from blenders for elevation to mezzanine and packaging.

COUNSEL MACHINE COMPANY, INC.
8 Hathaway Street • Wallington, N. J.

▲ For more details circle NED-472 K5 on enclosed inquiry slip ▲

...You can't beat these drop-head dies for easy work, perfect threads...and long trouble-free service!

Every RIDGID Pipe Tool TESTED before shipment

RIDGID Drop-Head Dies for ⅛" to 2" pipe

Each size die head snaps instantly into ratchet handle. Dies reverse quickly for close-to-wall threads, easily removed for regrinding. Left hand dies available.

00R, ⅛" to 1"
111R, ⅛" to 1¼"
12R, ⅛" to 2"

Carrier free with complete sets.

Every RIDGID Pipe Tool individually TESTED before shipment.

Buy them from your Supply House.

The Ridge Tool Company • Elyria, Ohio • U.S.A

▲ For more details circle NED-466 K5 on enclosed inquiry slip ▲

NOW! Initial cost of electric industrial trucks cut drastically by unique new Exide® Plan

Buy only the truck chassis!

Lease batteries and charger!

Get superior electric truck operation!

Now you can enjoy the efficiency and economy of electric fork and lift trucks, with relatively low cash outlay.

With the unique, money-saving Exide Plan: 1. You *buy* only the electric truck chassis. 2. You *lease* the Exide-Ironclad batteries and charger. (Terms are flexible to meet your needs and surprisingly low!)

Result: Your initial capital outlay can be cut as much as 33⅓%, whether you purchase one electric truck or a fleet! You pay for superior Exide power *as you use it*, and enjoy big savings. With one electric truck, for example, you can save as much as $1,425 per year. These savings are made possible by longer working life of the truck, lower power costs, lower repair and maintenance costs.

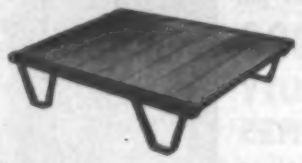
Make us prove these savings in your plant! Call your Exide sales engineer. Ask your electric-truck salesman. Write for all the facts!

Exide INDUSTRIAL DIVISION, The Electric Storage Battery Company, Philadelphia 2, Pa.

▲ For more details circle NED-470 K5 on enclosed inquiry slip ▲

In production or in storage

IRONBOUND EQUIPMENT HANDLES SMALL PARTS MORE EFFICIENTLY



Standard 2-way entry bolted type skid built to handle loads up to 5 tons.

Standard box top welded to standard skid. Available too, with removable boxes. Handles many items in production and storage.

Flexible arrangement of boxes and skids permits tiering and stacking to meet your individual requirements. Provides quick availability, easy handling, or storage for complete units or parts.

Each of the units illustrated has an important use in modern industry. Ironbound skid platforms and box tops are prime sources of increased plant capacity so vitally needed today. Our representative can help you to increase your output and plant space. Catalog GP-7 may help you, too!

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT-SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

For more details circle NED-473 K5 on enclosed inquiry slip

TIME IS MONEY

BOOST YOUR PROFITS WITH DUAL ACTION
TWO SANDERS IN ONE!

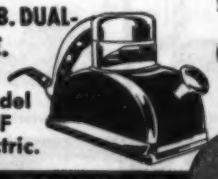
Model DA Air.

Check these PROFIT POINTS:

- 3 to 5 times faster than other type sanders.
- A Rougher for heavy stock removal.
- A Finisher for fine work.
- Dual Action cuts abrasive cost up to 80%.
- Ideal for sanding, grinding, buffing, polishing jobs from Plexiglass to Castings.

AN *Easy* FOR EVERY JOB. DUAL-ACTION OR STRAIGHT LINE.

Model JR Air.



Model DF Electric.

SEE YOUR JOBBER OR WRITE FOR LITERATURE

DETROIT SURFACING MACHINE CO.
1265 E. Eight Mile Rd., Detroit 20, Mich.

For more details circle NED-474 K5 on enclosed inquiry slip

SAFE in Hazardous Atmospheres – and Light too!

FRONTIER 40-E Aluminum Pipe Wrenches

- ★ Non Sparking Wrench Jaws of Special Beryllium Alloy.
- ★ Lightweight. Less than half the Weight of Same Size in Bronze or Malleable Wrenches.
- ★ Extra Strong. Exceeds Std. Specs. for Heavy Duty Pipe Wrenches.
- ★ Wrenches Available in Sizes 14 inches thru 36 inches.

STEEL JAWS ALSO AVAILABLE

ORDER FROM YOUR DISTRIBUTOR or write for complete information

Manufactured by
FRONTIER BRONZE CORPORATION
4859 Packard Road Niagara Falls, N. Y.

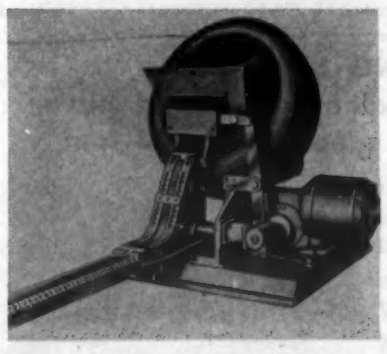
For more details circle NED-475 K5 on enclosed inquiry slip

WORKPIECE POSITIONER used with vertical spindle machines

Accurate, automatic location of production parts under all types of vertical spindle machine tools is possible with the Micro-Positioner table. Designed to cut costs and reduce operator fatigue the positioner can hold tolerances within 0.0003-in. The table is controlled by means of a steel tape indented by an automatic marking device from information on blueprints or by locating the vertical spindle machine over a previously marked part. Once the tape is indented, all subsequent production can be run by means of pushbutton controls on a master console, a part of the unit. Available from **Topp Industries, Inc.**, Dept. NE, 5255 W. 102nd St., Los Angeles 45, Calif.

For more details circle NED-476 K5 on enclosed inquiry slip

ROTARY HOPPER FEEDER feeds 4500 parts per hour per track



This rotary hopper feeding system incorporates a model 180 Feedmatic hopper which can be used with as many as four power feed tracks. Rated output of system is 4500 corrected parts per hour, per track. Installation can also be used in sorting, counting and inspection operations. Enclosed continuous-duty motor has slip clutch for overloads. System utilizes 12-pitch gears mounted on ball bearings, all of which operate in oil bath. Hopper has three-point mounting for installation on rough or uneven surfaces. Made by **Feedmatic Inc.**, 22521 Telegraph Rd., Detroit 19, Mich.

For more details circle NED-477 K5 on enclosed inquiry slip

Dial Indicators, Gages & Instruments

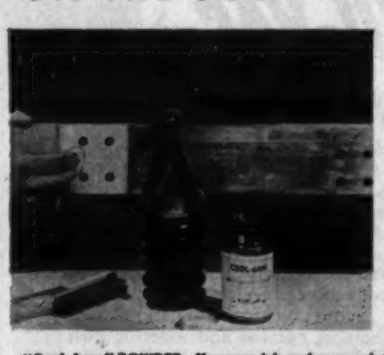
L. S. Starrett Co.—80-page illustrated catalog No. 416 gives specifications of line of dial indicators, dial gages and instruments. Over 140 models of high-precision low-friction dial indicators, Last Word dial test indicators, magnetic base holders, dial comparators and bench gages, dial depth gages, hand and pocket dial gages, cylinder and out-of-round gages, vibrometers and other precision instruments are described.

For more details circle NED-478 K5 on enclosed inquiry slip

GENUINE — SIMPLE

SILVER PLATING

"ON THE JOB" WITH POWDER



Purposes of silver plating need not be explained to you of the electrical field.

The biggest problems of silver plating are its convenience, economy and thoroughness. "Cool-Amp" silver plating POWDER is the answer to these problems.

"Cool-Amp" deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has been proven equal to any electroplating for bolted and stationary contacts and is far more adaptable . . . always ready to use.

"Cool-Amp" POWDER offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

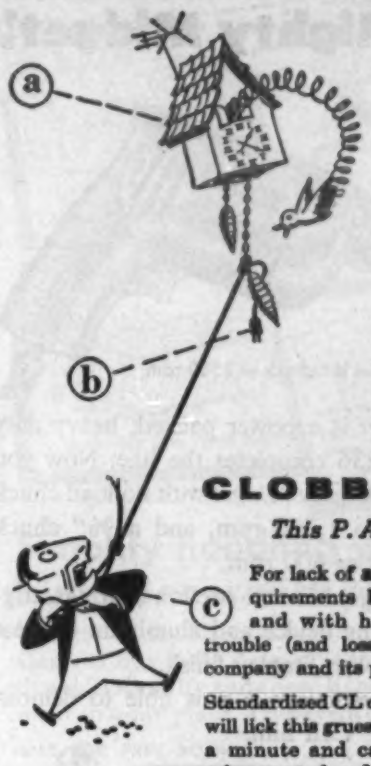
"Cool-Amp" is completely harmless to the user and is simple to apply. It can be used by any number of people at the same time. ON THE JOB, in underground vaults and sub stations and in hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

Dampen a rag, dip in "Cool-Amp" and rub on surface. One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND SHIPPED PREPAID
WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS
GENUINE • SIMPLE SILVER PLATING

The COOL-AMP Co.
Dept. ED, 8603 S. W. 17th Avenue, Portland 19, Oregon

For more details circle NED-479 K5 on enclosed inquiry slip



CLOBBERED ?

This P. A. certainly is . . .

For lack of a time his cord set requirements **b** were ordered late and with haste. Result **c** big trouble (and losses) for himself, his company and its products.

Standardized CL cord sets ordered now will lick this gruesome possibility. Take a minute and call your Cords Ltd. salesman today. No obligation.

CORDS LIMITED
DIVISION ESSEX WIRE CORP.
121 DODGE ST., DEKALB, ILL.

For more details circle NED-480 K5 on enclosed inquiry slip

Special wire rope constructions and assemblies

FOR TIGHT SCHEDULES

BERGEN'S fast service helps meet all your needs for . . .

- Standard or special construction wire rope.
- Stranding of conductive, non-conductive or combination wires or cables.
- Conventional or unique assemblies with swaged, spliced or socketed fittings.

Exclusive techniques of working modern, wear-resistant metals speed BERGEN deliveries to you.

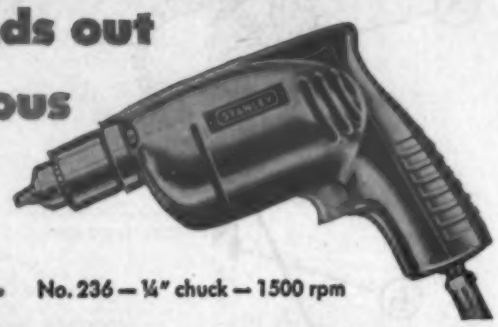
Write today for descriptive literature.

BERGEN
WIRE ROPE COMPANY
610 Gregg Street
Lodi, New Jersey

SERVING THE LEADERS OF INDUSTRY

For more details circle NED-481 K5 on enclosed inquiry slip

A new 'Mighty Midget' rounds out famous line



• No. 236 — ¼" chuck — 1500 rpm

Every *Mighty Midget* is a power packed, heavy duty drill. The new No. 236 completes the line. Now you can get a ¼" chuck *Mighty Midget* with no load chuck speeds from 5,000 to 1,500 rpm, and a ⅜" chuck model rated at 1,000 or 600 rpm.

Every *Mighty Midget* has anti-friction bearings, trigger switch with locking device and aluminum die-cast housing with high polish Stanley finish.

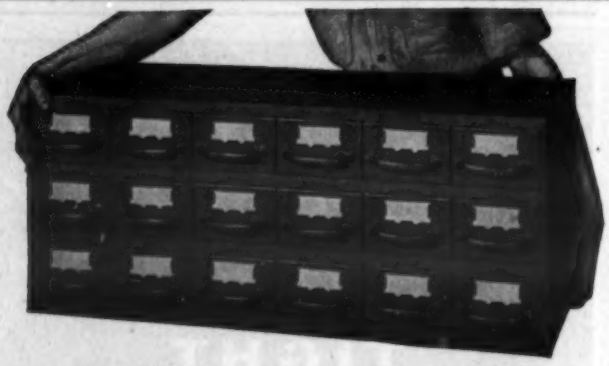
Your industrial distributor is now able to demonstrate the whole line. Call him.

STANLEY

The Stanley Works • New Britain, Conn.

ELECTRIC TOOLS • TOOLS • HARDWARE • STEEL • STEEL STRAPPING

▲ For more details circle NED-483 K5 on enclosed inquiry slip ▲



Here is your answer to small parts storage problems

Superior features keep Equipto all-steel units out front! 54 different type small parts can be stored in this single drawer unit by using the two adjustable dividers in each drawer. Spacious drawers have king-size handle and slide easily on embossed runners. Enclosed sides and bottom prevent escape of parts and jamming of drawer. Tank-strong construction. Rugged shelf beneath each row of drawers. For use individually, in stacks, under counters, or in shelving. Available in 8 to 108 drawer units. Olive green baked enamel. Write today for full details.

Equipto Division of Aurora Equipment Company

690 Prairie Avenue, Aurora, Illinois

Steel Shelving . . . Parts Bins . . . Drawer Units

▲ For more details circle NED-484 K5 on enclosed inquiry slip ▲

USE

Saves Grease! Saves Labor! Saves Belts!

If You Use Belt Conveyors You Need

CONTINENTAL IDLERS

• UNIT-SEALED
• TIMKEN BEARINGS
• PRE-LUBRICATED

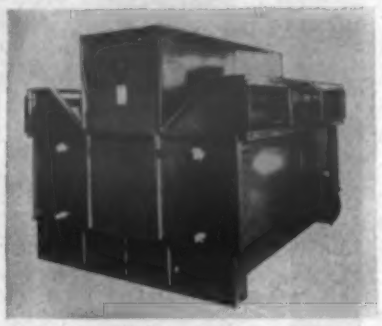
Write for Bulletin NED-116

ALL SIZES! ALL TYPES! CG-5301

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.

▲ For more details circle NED-485 K5 on enclosed inquiry slip ▲

INDUSTRIAL FLUID COOLER models up to 18-million Btu/hr operate on evaporation principle

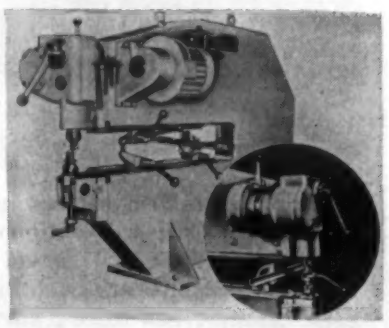


Temperature control within 2° F can be achieved in this panel casing Aero heat exchanger which finds application in cooling water, oil or brine quench fluids; lubricating and cutting oils; engine jacket water; or chemical reactions in process industries. Unit can be installed anywhere and is offered in four sizes with capacities from 7 million to 18 million Btu per hour under standard conditions. Maximum space required is 194 x 140½ x 125⅝ in.

Unit cools by evaporation and obtains temperature control by modulating use of outdoor air. Fluid to be cooled flows through two parallel-mounted coil sections, both of which are continuously drenched with water spray. Portion of this water evaporates while balance is recirculated by pump. Fluid is effectively cooled to a point close to atmospheric wet bulb temperature. Designed to be assembled on installation site, cooler is shipped as flat panels to save freight costs. Made by **Niagara Blower Co.**, Dept. E.D., 405 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-486 K5 on enclosed inquiry slip ▲

METALWORKING MACHINE will do straight, circle and louver cutting at speeds up to 20 fpm



Latest addition to family of sheet metal and plate working machines is Pullmax Model P-7 which features eight different speeds and stroke lengths between 0.059 to 0.244 - in. Machine has stationary lower tool and reciprocating upper tool which can be lowered in steps. Edge cutting capacity is 9/32-in. in mild steel. Power is supplied by 3-hp motor.

Model P-7 can be equipped with power feed device for moving metal through cutting tools at speeds up to 20 fpm. It has hand wheel attached to crankshaft by which bottom position of tool stroke can easily be determined and accurate tool adjustment made. Attachments are available for straight, circle and louver cutting, dishing, beading, joggling and edgebending, in addition to freehand or irregular cutting. Made by **American Pullmax Co.**, 2457 N. Sheffield Ave., Chicago 14, Ill.

▲ For more details circle NED-487 K5 on enclosed inquiry slip ▲

Materials Handling By **AIR** →

SPROUT-WALDRON

—PNEU-VAC→

Pneu-Vac handles granular, pulverized, and flaky materials without passing them through the fan. It is self-cleaning and can cool, heat, aerate, or dry. There are few moving parts. As a result, Pneu-Vac pays in many ways—

99.96% material recovery...no handling losses ...increased production...greater safety...low maintenance...no product intercontamination...elimination of mechanical friction and exterior dust... improved working conditions...small space requirements.

WRITE NOW for full details on this as well as other Sprout-Waldron equipment for bulk materials handling—screw, belt, and drag conveyors...bucket elevators...and rotary vane feeders.

SW **SPROUT-WALDRON**

The Best in Materials Equipment Since 1885

8 LOGAN ST. • MUNCY, PA.

IN/382 Equipment for SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

▲ For more details circle NED-488 K5 on enclosed inquiry slip ▲

"most lathe per dollar invested"

— Laurence Carl

exclusive design features put

CLAUSING 6300

12" HEAVY DUTY PRECISION LATHES

in a class by themselves

On any basis of comparison, ATLAS-CLAUSING 6300 Series are standout values for efficient 24-hour production . . . tool room or research work. 8 speeds, 50 to 1300 RPM — 12¾" swing over bed, 7½" over saddle, 24" — 36" — 48" between centers — headstock, apron, and quick change gears run in baths of oil. Get all the facts from your ATLAS-CLAUSING Distributor.

"The ATLAS-CLAUSING 6300 lathe is the most lathe per dollar invested available within its size range. Because of its in-built accuracy we are able to move spindle and nose fixtures from one lathe to another without affecting the accuracy of the product. It's a fine profit making machine." Signed — Laurence Carl, Carl Manufacturing Company

The heavy, thick-walled grey-iron headstock is fully enclosed and all moving parts run in a pumped bath of oil. Spindle is forged, precision-ground steel with 1⅜" bore and 1" collet capacity . . . turns on heavy duty Timken precision tapered roller bearings. Hardened and ground spindle nose L-00 is tapered key-locked type. Spindle can be reversed without danger of the chucks coming off.

Drive is underneath, with spindle pulley mounted "outboard" — replacing belts is a quick, easy job. Dual A-belt drive assures full transmission of power.

Quick-change mechanism is enclosed . . . gears and shafts run in bath of oil. Provides instant selection of 48 threads or feeds. Feeds from .00065" to .036" per revolution of spindle, and right and left hand threads from 4 to 224.

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LATHES • DRILL PRESSES • SHAPERS • MILLING MACHINES

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HydroLectric

LIFT TRUCKS

For the Heavy Load • For the Light Load
For the Unusual Load

Look over the models illustrated. Some one of these trucks is adaptable to your needs. Whether you want to pull—push—carry or lift there is a model for every possible use. The many fleets of HYDROLECTRICS today carry products of every kind, shape and description are convincing evidence of their unusual application.

Write today for FREE Catalog No. 35 featuring complete line of Lift Trucks.

LIFT TRUCKS INCORPORATED 2423-2431 Spring Grove Ave. CINCINNATI 14, OHIO

▲ For more details circle NED-490 K5 on enclosed inquiry slip ▲

You may have spent enough to pay for an AMF DeWalt...

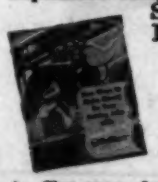
BUT DO YOU OWN ONE?

New model GW-1 10" Saw with FULL 1½ H.P. Motor . . . complete for only $395 DELIVERED (custom-built 1½ H.P. Motor, 10" saw blade, 4 detachable steel legs, included)

Even if you've invested as little as $239 in shop equipment you may not be enjoying the benefits of a DeWalt®. One low-cost AMF DeWalt...

• Does ALL the work of a swing saw, straight line cut-off and miter saw, table-type rip saw, dado machine, shaper plus many others.
• Saves you up to 60% in capital equipment investment.
• Saves you up to 75% in floor space.

These and many other AMF DeWalt advantages are explained fully in our *free* new idea book for industry. SEND FOR IT TODAY! Write AMF DeWalt, Dept. NED-10, Lancaster, Pa.



FREE! Send for new idea book on industry!

Another AMF Product **DeWALT** POWER TOOLS

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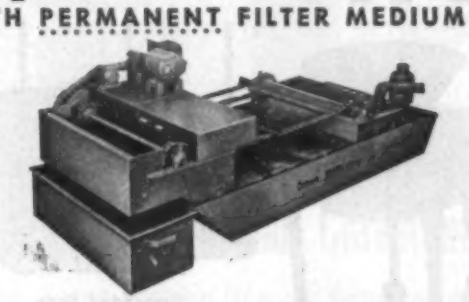
Filters Fine Solids...

Delpark UP-FLO Filter

WITH PERMANENT FILTER MEDIUM



• High Efficiency • Full Flow
• Fully Automatic • High Capacity • Self Cleaning
• Basic Gravity Principle

This newest of the famous Delpark line filters unbelievably fine particles from liquid. From fine graphite to coarsest particles removed in one operation. Filter efficiency is never impaired. Continuous operation is assured from high capacity, full flow filtration. All sizes, flows and capacities available. *Write for more complete information.*

Backed by more than 40 years experience in Industrial Filtration

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVENUE • LEBANON, INDIANA

▲ For more details circle NED-492 K5 on enclosed inquiry slip ▲

Automation Speeds Up Hole Drilling

New Machine Drills 40 Pieces Per Minute

Drilling at a higher production rate and a lower production cost is the result achieved by applying the principles of automation in the designing of this New Govro-Nelson Automatic Drilling Machine for drilling a .135 hole in a brass part.

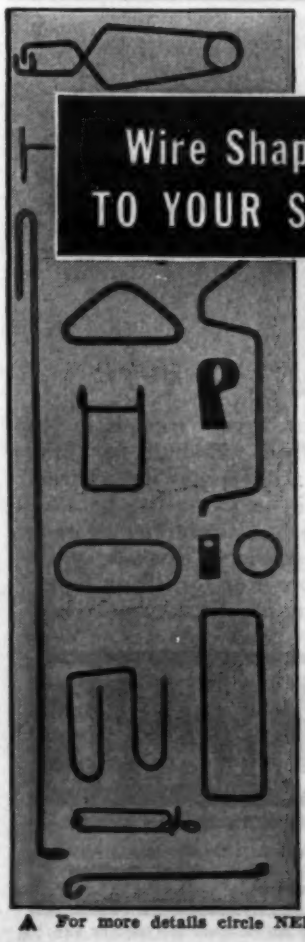
The machine incorporates two independent Govro-Nelson Automatic Drilling Units, each being completely interlocked with an air-operated magazine which is kept filled by the operator or mechanically.

The parts are automatically clamped, drilled and ejected into a chute, permitting complete automation. Output rate: 40 pieces per minute. Literature on request.

GOVRO-NELSON CO.
1933 Antoinette
DETROIT 8, MICH.

Automatic DRILLING UNIT

▲ For more details circle NED-493 K5 on enclosed inquiry slip ▲



Wire Shapes and Forms TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

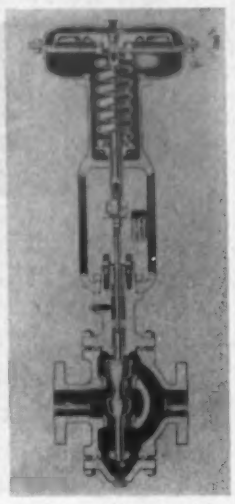
Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▲ For more details circle NED-494 K5 on enclosed inquiry slip ▲

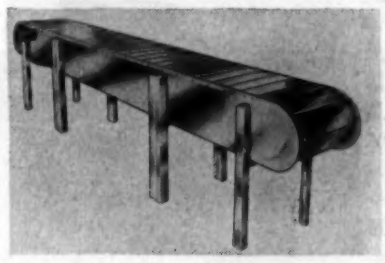
DIAPHRAGM MOTOR VALVE in direct and reverse-acting types



Series 657 direct-acting and series 667 reverse-acting diaphragm motor valves have been improved in design. They have bolted-clamp stem connection which allows stem adjustment of 50 per cent of total travel in either direction. It can be disconnected in the field without damage to the stem, and will not loosen from vibration or rotational inner valve forces. Buna N molded diaphragms with nylon inserts retain flexibility at low ambient operating temperatures. It provides linearity of relationship between instrument signal and travel. Topwork can be removed without disturbing the stuffing box. Latter is of bolted clamp type with Teflon packing. Stainless steel travel indicator is calibrated in per cent of valve travel. Made by **Fisher Governor Co.**, Marshalltown, Iowa.

▲ For more details circle NED-495 K5 on enclosed inquiry slip ▲

ALUMINUM CONVEYOR in belt lengths up to 175 ft



Suitable for moving parts, assembled goods or food products from assembly or process lines to shipping or storage points, this Pre-Fab all-aluminum conveyor features a sagless, vibrationless belt-plate top. Belt is fastened to link-chain arrangement hooked up with drive sprockets and can move at up to 100 fpm in either direction. Each foot of belt is supported by eight or more rollers. Belts are available in widths from 6 to 96 in. and in lengths up to 175 ft or more. Conveyors are prefabricated in 5-ft sections for quick assembly. They can be made fully enclosed or adapted to incline movement by addition of cleats. Made by **Mercury Industries, Inc.**, Conveyor Div., Hillsdale, N. J.

▲ For more details circle NED-496 K5 on enclosed inquiry slip ▲

Hydraulic Pumps & Controls

Vickers Inc.—The complete Vickers line of oil-hydraulic pumps, controls and accessories for general industrial application is subject of 56-page illustrated catalog 5001A. Included are design, engineering and application information on pumps, pressure controls, volume controls, directional controls, control assemblies, hydraulic motors, transmissions, cylinders and related equipment.

▲ For more details circle NED-497 K5 on enclosed inquiry slip ▲

PALMER TEMPERATURE INDICATING INSTRUMENTS

MERCURY ACTUATED

4½" DIAL THERMOMETERS

Made in 3 types to suit any requirements. Rigid stem, wall or flush mounted, 11 inches of scale reading. Interchangeable with standard industrial separable sockets. Stem can be placed at any angle and case can be rotated to any readable position.

RECORDING THERMOMETERS

Twelve inch die-cast aluminum case with black or white wrinkle or satin finish. Single or multiple pen construction. Electric or spring wound clock, 24 hour or 7 Day Revolution. Flexible Armor and bulb of stainless steel. Ranges—40+950°F. or Equivalent in °C.

INDUSTRIAL THERMOMETERS

Red-Reading Mercury—Extruded brass case—chrome finish. Ranges—40+950°F or Equivalent in °C.

RED-READING MERCURY LABORATORY THERMOMETERS

Thoroughly annealed for permanent accuracy. Complete line A. S. T. M. and fractional division types.

WRITE FOR CATALOG INFORMATION

PALMER THERMOMETERS, INC., Cincinnati 12, Ohio

▲ For more details circle NED-498 K5 on enclosed inquiry slip ▲

Simplify handling with custom-built Generalift pallet boxes

They're light, strong, rugged, and low cost. Let General Box build them to incorporate the features that will simplify and speed handling, storage, shipment in your plant. To have a man call, write.

SEND FOR FREE BOOKLET on Generalift pallet boxes showing many ways in which these wirebounds are used to save time and money.

General Box
1849 Miner St., Des Plaines, Ill.
★ ★ ★ ★ ★

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Next time try Chip Board

Gair Pasted Chip Board won't let you down. In fact, the only thing it lowers is your fabricating costs.

Gair Pasted Chip Board is strong and moisture resistant, yet light-weight and *easy to fabricate*. It's ideal for chair seats, bridge tables, TV and radio backs, toys — along with a host of other items . . . maybe yours?

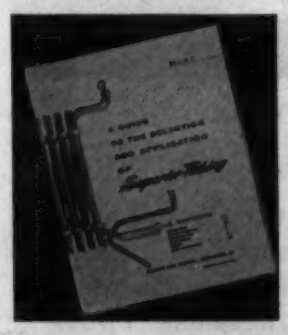
Your Gair Boxboard man has lots of ideas on how Pasted Chip Board can fit into your product picture. What's more, he can supply it to the specifications that fit your fabricating needs.

GAIR *boxboard*
SPRINGBOARD TO MORE SALES

ROBERT GAIR COMPANY, INC. • 155 EAST 44th STREET • NEW YORK 17, N.Y.

▲ For more details circle NED-500 K5 on enclosed inquiry slip ▲

NEW! A guide to the selection and application of Superior Tubing



This brand-new 8-page booklet was designed to help you select the proper SUPERIOR tubing for your use. It gives you at a quick glance the uses, advantages and normal production limits of all the standard ferrous and nonferrous alloys which SUPERIOR produces.

SUPERIOR makes a wide range of alloys available in tube form —over 55 analyses in carbon, alloy and stainless steels; nickel and nickel alloys; beryllium copper, titanium, glass sealing alloys. You can get all analyses in .010" to ⅝" O.D. and certain analyses in light walls up to 2½" O.D.

Use the convenient coupon below or check the return card for your free copy of this helpful, informative 8-page booklet.

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2018 Germantown Avenue
Norristown, Pa.

Please send me at once a free copy of Bulletin 40—A Guide to the Selection and Application of SUPERIOR Tubing.

Name.....Title.....
Company.....
Street.....
City.....Zone....State.....

▲ For more details circle NED-501 K5 on enclosed inquiry slip ▲

"TOOL UP"
for your cleaning jobs
PREVENT FIRES

with HYPRESSURE Jenny STEAM CLEANER

You'll find a new source of savings and profits, plus greater plant safety, when you "tool up" for cleaning jobs with Hypressure Jenny Steam Cleaner. Jenny removes grease, cutting oils, and protective coatings from machinery, equipment, sub-assemblies, and castings, before repair, repainting or machining—ten times faster than by ordinary methods! It promotes safety by eliminating the fire hazard of greasy conveyor chains and floors, and the use of inflammable cleaning solvents. It cleans ribbed glass windows; keeps floors and runways free of dirt and grease for safer, faster plant traffic, and often reveals damaged or worn parts for repair before production delays or breakdowns occur. Jenny does most any cleaning job for one-tenth the cost of cleaning by hand. So find out how easy it is to bring these savings and safety to your plant.

Send for Catalog today for full facts.

HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING CO.

P.O. BOX 84 CORAOPOLIS, PA.

▲ For more details circle NED-502 K5 on enclosed inquiry slip ▲

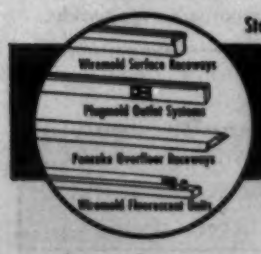
PLUGMOLD is
QUICK
easy and economical to install
... safe, neat, permanent!

For production lines, offices, showrooms!

Plugmold surface outlet systems are the fastest, easiest, most economical way to provide more outlets for industrial and business use. You get a superior job when you install Plugmold.

For more information, write to Dept. S-10

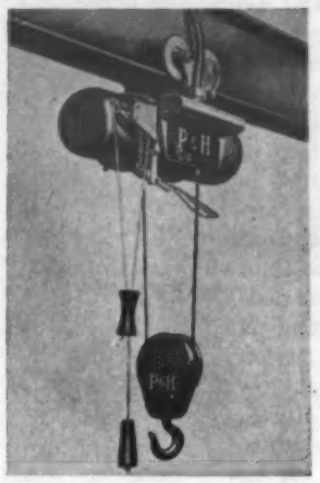
Stocked by electrical wholesalers . . . everywhere!



THE WIREMOLD COMPANY
HARTFORD 10, CONNECTICUT

▲ For more details circle NED-503 K5 on enclosed inquiry slip ▲

ELECTRIC HOISTS
wire rope units lift up to 2000 lb



Capacities of 250, 500, 1000 and 2000 lb are available in Zip-Lift wire rope electric hoists. Units feature a motor brake and a load brake, either of which will hold the full load, and a standard lift of 10 ft. Lifts of 14, 18, and 20 ft are optional. Specifically designed for hoisting service, motors have high starting torques and frequent reversing characteristics which rate them 15 minutes under full load. Upper-limit switch is also featured. Hoists can be obtained for use on all common lighting power-circuit voltages. Made by **Harnischfeger Corp.**, P&H Hoist Div., 4400 W. National Ave., Milwaukee 46, Wis.

▲ For more details circle NED-504 K5 on enclosed inquiry slip ▲

MAGNETIC TESTING SET
has 25 centimeter Epstein frame

This Universal magnetic testing set is a complete unit designed to make measurements of magnetic materials that conform to ASTM specifications. Its functions include the determination of BH curves and of hysteresis loops, core loss testing using Epstein frame or standard E and I cores, measurements of total flux of hard magnets, measurements of magnetic field strength and alternating and direct current permeability tests. Instruments include a direct current ammeter, alternating current ammeter, RMS voltmeter, flux voltmeter, low power factor wattmeter, a multirange fluxmeter and a 25 centimeter Epstein frame. Accuracy of instruments is 0.5 of 1 per cent and 0.75 of 1 per cent on thermocouple types. Frequency limit is up to 1000 cps. Made by **Sensitive Research Instrument Corp.**, Dept. 10A, 9-11 Elm Ave., Mt. Vernon, N. Y.

▲ For more details circle NED-505 K5 on enclosed inquiry slip ▲

Steel Processing

Bloom Enginering Co.—"The Rate of Heat Absorption of Steel" is title of 32-page booklet which explains a simplified method by which the heating rate of steel can be calculated and the center temperature of the piece predicted. Fifteen charts and diagrams amplify the text of this paper which was presented by Mr. Fred S. Bloom to the AISE.

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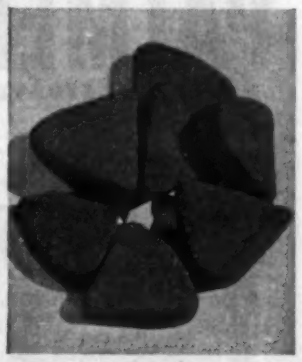
Brand new!...
TUMBLEX "T"—
bonded, triangular tumbling abrasive



The new Norton Tumblex "T" abrasive brings you this unbeatable "Touch of Gold" combination for better, lower cost barrel-finishing: *non-wedging triangular shape; fast-cutting bonded ALUNDUM* abrasive; and four sizes for the widest range of applications.*

Tumblex "T" abrasive provides maximum surface contact, assuring top-quality work. It wears evenly, keeping the same triangular shape — no chips to lodge in recesses — and when worn down it can be used on parts requiring a smaller size abrasive.

For further details, write to NORTON COMPANY, Worcester 6, Mass. Distributors in all industrial areas. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Mass.

G-296

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Making better products... to make your products better

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*Trade-Mark Reg. U. S. Pat. Off. and Foreign Countries

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for MAGNETIC SEPARATION of
DRY MATERIALS

If you handle powdered or granular materials in your processes —or sell such materials—FRANTZ FERROFILTERS will help eliminate losses and complaints due to iron contamination. Insure high quality of product by removing this source of trouble. For complete information . . .

S. G. FRANTZ CO., Inc.
Brunswick Pike & Kline Ave.
P. O. Box 1138, Trenton 6, N. J.

Send for BULLETIN 56-E

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Quick delivery on small Clevelands

● Order for prompt shipment from our factory stock of small Cleveland Worm Gear Speed Reducers. You can select a design from our standard ratio units to serve almost any purpose.

All Clevelands are made with hardened and ground steel worms, nickel bronze gears, anti-friction bearings throughout, and accurately jigged one-piece malleable iron housings.

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Write for Bulletin 114F and Prices

The Cleveland Worm & Gear Co.
3283 East 80th St.
Cleveland 4, Ohio

CLEVELAND Worm Gear *Drives*

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HOW TO CUT PIPING LAYOUT COSTS

Save Time, Material and Labor with NAYLOR Fabrication Service

By combining several fittings into one integral unit and eliminating numerous flanged joints, Naylor fabrications enable you to save money and obtain better performance on your piping layouts. All types of materials can be fabricated accurately to your specifications. Sizes range from 3" to 44" in diameter and wall thicknesses from 14 gauge to ⅜". Complete line of standard fittings for lightweight pipe also available.

For the complete story, write for Bulletin No. 525

NAYLOR PIPE
NAYLOR PIPE COMPANY
1247 East 92nd St., Chicago 19, Ill.
Eastern U.S. and Foreign Sales Office: 350 Madison Ave., New York 17, N.Y.

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DEHUMIDIFIER drying agent is silica gel

Humidities as low as 10 per cent can be maintained in areas up to 60,000 cu ft over a wide range of temperatures by the Dryomatic T-150 adsorption type dehumidifier. The heavy duty unit has a dry air output of 150 cfm and is capable of removing 4 to 5 lb of water per hour. Regeneration of the silica gel drying agent is accomplished automatically by electric heating elements. Machine features a motor-operated four-way valve which alternately directs the air from one silica gel tower to the other. Only standard electrical outlets and a minimum of duct work are required. A built-in humidistat control can be provided for automatic on-off operation. Made by **Dryomatic Corp.**, Dept. ND, Box 334, Alexandria, Va.

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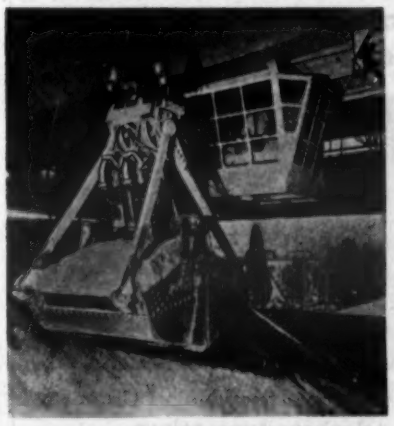
LARGE CAPACITY BUCKET meets cement plant requirements



Requirements of cement plants are met by this 14,250-lb, 5-cu yd four-line bucket, designed for minimum "dribbling" of fine granular materials to reduce dusting problems. Special alloy steel pins and manganese steel bushings are used rather than ordinary bearings in most moving parts. Exception is in lever arm sheaves which are mounted on sealed antifriction bearings. Main hinge design insures rigid scoop alignment. Contact edges of lips are hard surfaced for tight fit over long period of use. Made by **Blaw-Knox Co.**, 2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

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Portable Hand Riveter

Lemert Engineering Co.—Details of the Rotating Impact spinner-riveter hand gun and other pneumatic portable tools are shown in 4-page illustrated bulletin 86P. Operating on 80-psi air, these tools are available in sizes to drive up to 5/16-in. Monel rivets.

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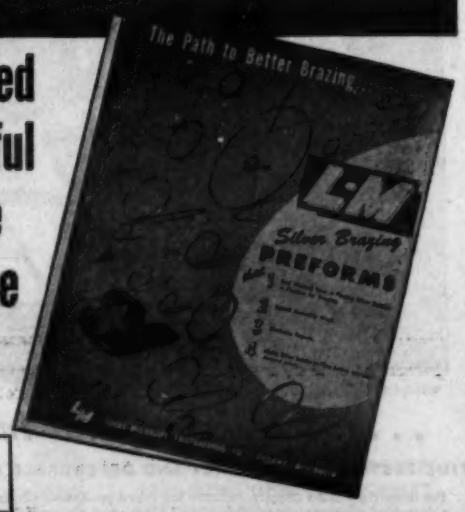
IF Silver Brazing IS PART OF YOUR PRODUCTION

You'll Need This Helpful 10 Page Reference Book!!



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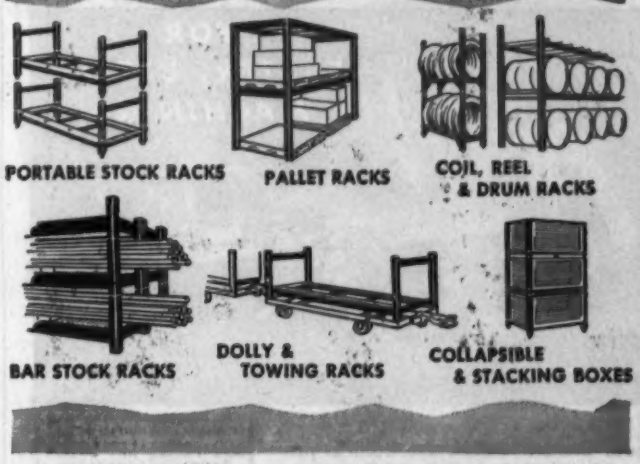

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- STACKING RACKS FOR INDUSTRY

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Stop dangerous handling of INDUSTRIAL LIQUIDS

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South Bend 9" lathes are built to produce faster and do better machining. We believe that no other lathe of comparable size and price can meet the requirements of industry as well. A South Bend 9" will handle efficiently all your small precision jobs. Prices in the 9" series start at $211.00, f.o.b. factory. We also manufacture larger lathes, 14" drill presses, 7" bench shapers and 8" or 10" pedestal grinders. Investigate South Bend machines today! Write for your catalog.

SOUTH BEND LATHE
SOUTH BEND 22, IND. • Building Better Tools Since 1906

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509 Charles St., Massillon, Ohio

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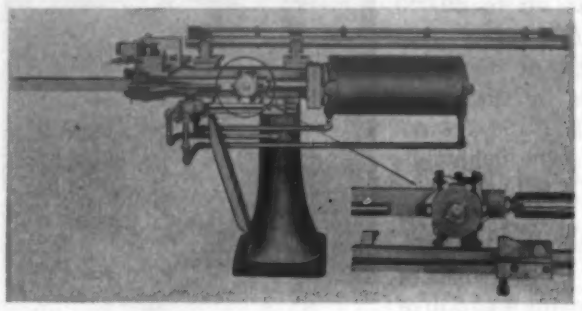
TUBE BENDING MACHINE
now has automatic turret attachment

An automatic turret attachment which speeds up and simplifies operation can now be incorporated on the Bend-Ex tube bending machine. Turret, which can



be set automatically to make a number of different angle bends, has six stations. On return stroke of rack, ratchet engages index finger and advances turret to next position. Turns are adjustable longitudinally on rack to accommodate different setups. Turret can be mounted in 1 hour on regular benders. Benders handle round tubing, light angles, channels and solid bars, and will make up to 1000 bends per hour. Made by **Paul Machine Tool Co.**, Dept. S, 4600 S. Kedzie, Chicago 32, Ill.

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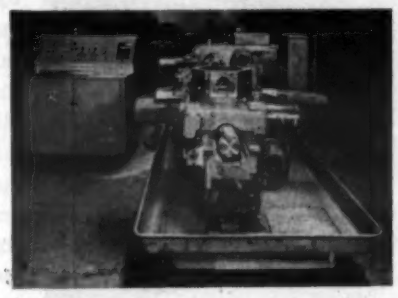
PUNCHED TAPE CONTROL SYSTEM
for automatic operation of machine tools, valves and other equipment



Control console no larger than an office desk is featured by the Binotrol punched tape control system for automatic operation of machine tools, valves and other industrial equipment. Operation is digital-to-analog. Circuitry is composed mainly of telephone-type relays.

In operating the Jones & Lamson No. 7 turret lathe shown, a coded signal punched on tape is fed into machine, moving it to predetermined spatial position. Instruction signals are punched upon plastic tape with each signal translated into a binary code number. Each machine motion is controlled through 32 possible hole positions. Machine starts, stops and recycles automatically.

Binotrol controls 16 spindle speeds, turret indexing, cross slide indexing, coolant, hood, chuck, bar feed and all tool motions. Lead screw accuracy is controlled to within 0.001-in. and cross slide motion to 0.0005-in. Machine can also be jogged into position by push-button control and manual cranks. Developed by **Barnes Engineering Co.**, Dept. 100, Stamford, Conn.

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TIME-TESTED FOR ACCURACY AND DEPENDABLE PERFORMANCE!

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MANUFACTURER OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

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Has fine ground lenses of optical glass. Neutralizes eye strain from close work. Binocular design gives third dimensional vision. Allows freedom of both hands. Wear over glasses. Plastic frame with adjustable headband.
SIZES: 20" focal lgth. 1½ power; 14" focal lgth., 1¾ power; 10" focal lgth., 2½ power; 8" focal lgth., 2½ power . . . . . price each ONLY 10.50

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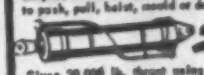

SPECIAL
Gives 20,000 lb. thrust using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 3000 PSI. Can also be used as a low pressure air system. Has 4" bore; 18" stroke; 30½" long. Ideal for shop. Part No. 29 #889 29.95 NEW 43.95

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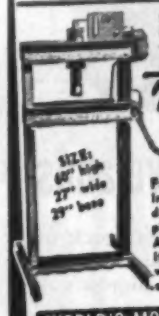
See our complete line. Pullers for Gears, Bearings, Wheels, Pulleys, Bushings, Shafts, etc.



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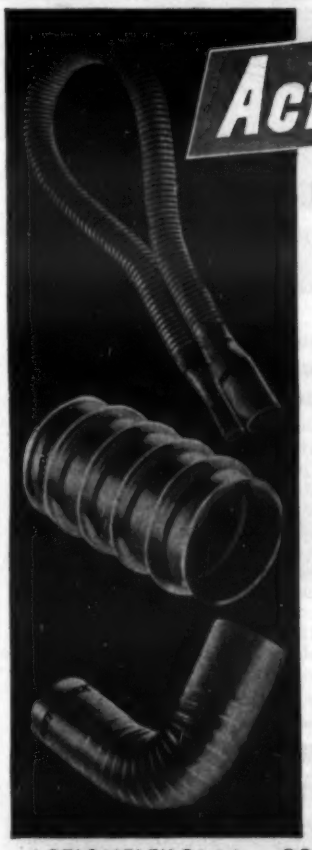
Actionflex



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. . . Tough and durable Actionflex Fiberglass-Silicone laminations are the answer for connecting vibrating parts without corroding, cracking, or delaminating. Actionflex is extremely light weight and flexible. The use of standard couplings or special couplings and bonds designed to fit engineers' specifications is an important feature of Actionflex.

Manufactured to meet your specific engineering requirements for

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ACTIONFLEX Division, ORCHARD INDUSTRIES, INC.
Hastings, Michigan

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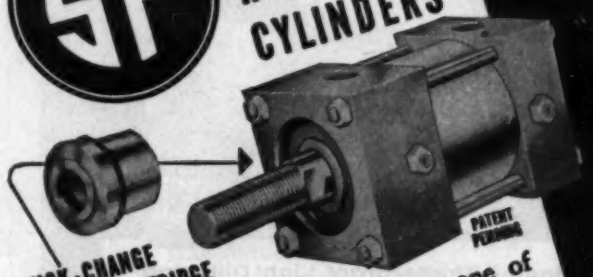

QUICK-CHANGE PACKING CARTRIDGE CUTS DOWNTIME

Removable packing cartridge is just one of many modern design features of S-P all-steel cylinders. Made in a wide range of mountings and bore sizes. Prompt deliveries. Send for catalog on Hydraulic Cylinders or Standard Air Cylinders or Heavy-Duty Air Cylinders. The S-P Manufacturing Corp., 12415 Euclid Avenue, Cleveland 6, Ohio.

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DEPENDABLE SOURCE OF SUPPLY

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With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

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With "HARDSTEEL"

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BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

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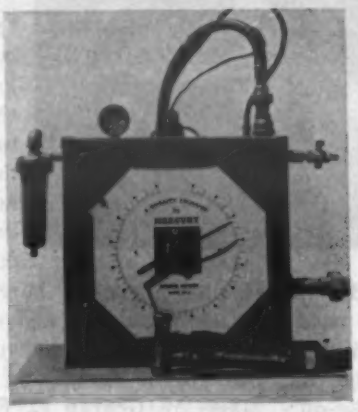
PLASTISOL DISPENSER
delivers accurately metered amounts



Accurately measured amounts of vinyl plastisol are dispensed by this model AD automatic dispenser. It is infinitely adjustable to deliver from 15 to 1600 grams. Dripproof nozzle is employed. Smaller model AD-E handles from 12 to 1300 grams and also uses the dripproof nozzle. Manual model MD dispenser is designed for use where multiple filling is required and is employed for nonmeasuring bulk dispensing. Made by **Mercury Industries, Inc.**, Hillsdale, Bergen County, N. J.

▲ For more details circle NED-532 K5 on enclosed inquiry slip ▲

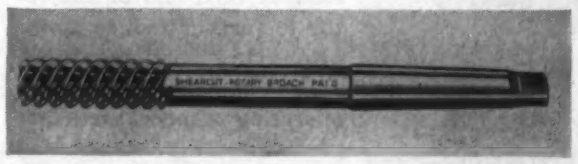
HARD-FACING ELECTRODE
corrosion and abrasion resistant

Smooth, bright, nonoxidized deposit that is free from porosity is produced by No. 11 hard facing electrode, used where high corrosion and high abrasion are encountered at elevated temperatures. It flows readily to clean base metal, giving minimum penetration, and retains virtually all its characteristics at red heat. Applications include hard facing valves, tongs, chemical equipment and food machinery where only moderate impact is encountered. Nonferrous type high cast alloy rod contains cobalt, chrome and tungsten and has a Rockwell C hardness of 50-52 as deposited. Application can be by either acetylene or electric equipment. Made by **Mir-O-Col Alloy Co.**, 316 North Ave. 21, Los Angeles 31, Calif.

▲ For more details circle NED-533 K5 on enclosed inquiry slip ▲

ROTARY BROACHES
now offered with taper shanks

Expanded company facilities now make available rotary broaches with taper shanks. These tools are being made in ¼ to 1 in. sizes in increments of 1/32-



in. and from 1 1/16 to 1½ in. by sixteenths. Broaches have high spiral or helical cutting edges which remove metal in true shearcutting manner. Chips removed resemble steel wool in form and texture. Holes produced are perfectly round and finished. Made by **Shearcut Tool Co.**, Dept. NEDM-12, 7045 Darby Ave., Reseda, Calif.

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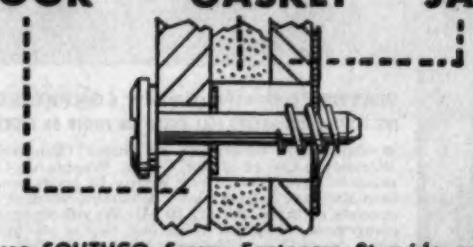
USE ONE SIZE COWL FASTENER
for various thicknesses of DOOR GASKET JAM



Because SOUTHCO Screw Fasteners fit wide range of tolerances, you need only one grip size for many production runs.

Benefits—
SIMPLIFY STOCK REQUIREMENTS
END MISALIGNMENT TROUBLES
SPEED ASSEMBLY

Easy installation—no skilled labor, no special tools needed.

Write for details today. Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

©1955 SOUTHCO FASTENERS Whenever two or more parts are fastened together

▲ For more details circle NED-535 K5 on enclosed inquiry slip ▲

Electro-Mist Electronic Oil Mist and Fume Precipitator. Capacity—700 cfm.

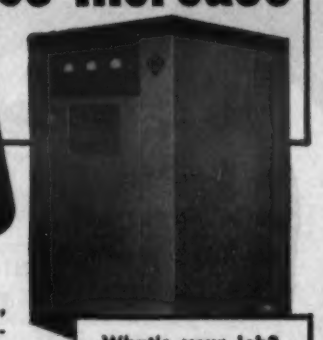
Fire hazards, costly maintenance, slippery floors—all are the result of oil mist "on the loose" from high-speed cutting and grinding operations. AAF's Electro-Mist electronic precipitator traps this mist, smoke and fumes right at the source—permits return of cleaned air to workroom and the collection of up to 10 gallons of oil per day for re-use.

Electro-Mist's compact design permits location close to operation, saving costly duct runs. Available in 700 cfm and 1500 cfm capacities. For complete information, write for Bulletin No. 251A.

American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle NED-536 K5 on enclosed inquiry slip ▲

300% Sales Increase
credited to



ALLIS-CHALMERS Induction HEATING

Jambor Tool & Stamping Co., Milwaukee, Wisconsin, reports: "Since we installed a 25-kw Allis-Chalmers Induction Heater, increased preference for our king bolts has been amazing. Our sales are up 300%! What's more, material costs are down 10%."

Previously, Jambor made the king bolts of a low carbon steel. Though this material would outlast any heat-treated steel, competitors made an issue of the fact that it was file soft.

The Allis-Chalmers Induction Heater allowed Jambor to use a high carbon steel and heat-treat it to their own requirements.

What's your job?
If it involves hardening, soldering, annealing, brazing and/or heating — it will pay you to get all the facts. See how Allis-Chalmers Induction Heating can help you increase product preference, boost output, cut costs, minimize rejects. Contact your nearby A-C office, or write Allis-Chalmers, Milwaukee 1, Wis.

A-4555

ALLIS-CHALMERS

▲ For more details circle NED-537 K5 on enclosed inquiry slip ▲

"Kodak Photorecording Papers and Films . . . how to pick the one you need"

That's the title of a folder we recently published.

It gives you the details about the broad range of photographic films and papers we produce for photorecording purposes, tells you which to use for the application you have in mind, lists the various spoolings and lengths available. If you use photorecording now, or plan to use it in the future, you should have a copy. Just write to:

Industrial Photographic Division
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

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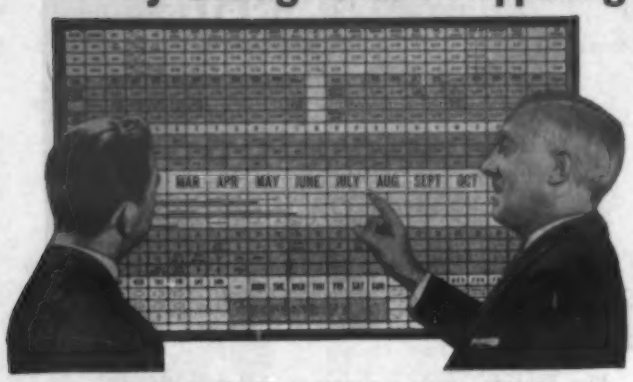
You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

- ★ Gives Graphic Picture of Your Operations in Color.
- ★ Facts at a Glance - Saves Time and Prevents Errors.
- ★ A Simple, Flexible Tool—Easily Adapted to Your Needs.
- ★ Easy to Use. Type or Write on Cards, Snap on Board.
- ★ Ideal for Production, Scheduling, Sales, Inventory, Etc.
- ★ Compact, Attractive. Made of Metal. 60,000 in Use.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET N-400 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36, N. Y.

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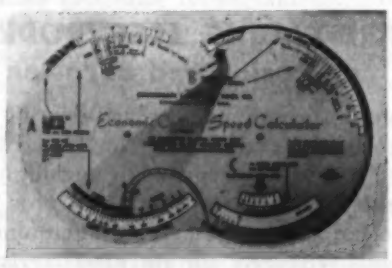
POWER TAKE-OFF
improved model has high horsepower

Portable cranes, drilling equipment and construction machinery can make use of the model G-54 power take-off. Basically similar to the model G-40 unit, it has almost twice the rated horsepower capacity of the older model, plus a greater safety factor. Unit can be used with all drills equipped with air compressors, drills using a 5 x 8 pump and on other applications requiring full engine torque on a split shaft power take-off. Made by **George E. Failing Co.**, Box 872, Enid, Okla.

▲ For more details circle NED-542 K5 on enclosed inquiry slip ▲

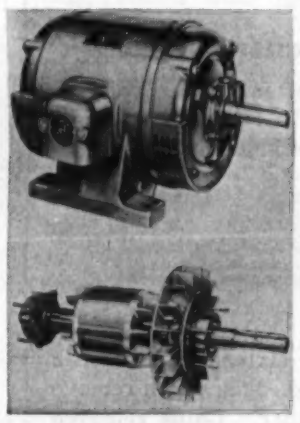
TURNING CALCULATOR
aids lathe feed-speed selection



Lathe feeds and spindle speeds for rapid turning in toolroom operations, job lot or initial production runs are given on this turning calculator. One side is used to determine fastest feeds and speeds, while set-up side helps answer question "how fast can I cut?" Other side relates cutting speeds to economy for high production operations. Calculator is offered for $1 with instruction booklet by **Cincinnati Lathe & Tool Co.**, 3200 Disney St., Cincinnati 9, O.

▲ For more details circle NED-543 K5 on enclosed inquiry slip ▲

DRIPPROOF MOTORS
have additional fan for cooling



High capacity turbine type fan mounted on the motor shaft of ACEC open dripproof motors serves with the usual integral cooling fans at each end of the rotor to further reduce motor operating temperatures. Also contributing to lower operating temperatures are precision - aligned stacking of stator laminations which minimizes temperature rise due to eddy currents. Formacec insulation facilitates heat dissipation. Made by **ACEC Electric Corp.**, Dept. NED, 40 E. 49th St., New York 17, N. Y.

▲ For more details circle NED-544 K5 on enclosed inquiry slip ▲

GRINDING MACHINE COOLANT CLARIFICATION

*The Leland Electric Company—Division of American Machine & Foundry Company, Dayton, Ohio—is a leading manufacturer of electric motors.

A SUBSIDIARY OF HOUDAILLE-HERSHEY CO
405 Wabash Aver
Lebanon, Indi

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Production goes faster with Work-O-Matics

WITH Work-O-Matic drop-bottom boxes and Positioning Stands, parts flow to machine operators at efficient work-level height. The reservoir tray avoids "production lag" while empty boxes are being replaced. Gone forever is the tiring stoop-bend-stretch routine, no more waste motion at machines or costly supply delays. Besides slashing production costs, Work-O-Matics mean increased storage capacity, safe tiering and mechanical dumping.

Write today for illustrated literature on industry's broadest line of Material Handling Equipment. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

From the smallest shop boxes to huge production positioning

UNION METAL
Material Handling Equipment

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CUT SET-UP COSTS HUNDREDS OF WAYS WITH HART MILLING FIXTURES

"Masters of A Thousand Set-ups"

Eliminate the need for many special expensive jigs and fixtures.

You will save time and money on most set-ups with Hart Milling Fixtures. They hold round, hexagonal, octagonal or square stock, for miller, shaper, drill press and tapper; they reduce set-up time and speed production. Hart Milling Fixtures are made in four useful sizes, and designed to be used in horizontal or vertical position. Let us send you full description and prices.

Write for illustrated folder

WALTER W. FIELD & SON, INC.
39 Hayward St., Cambridge 42, Mass.

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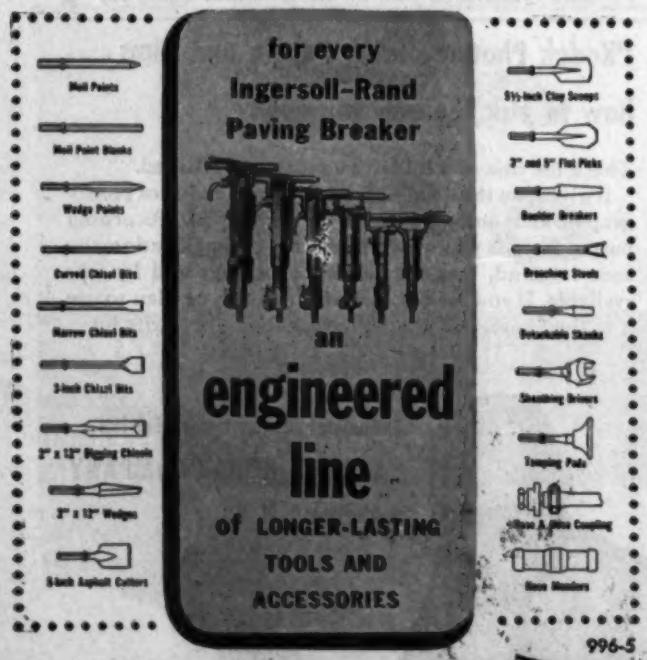
for every Ingersoll-Rand Paving Breaker

an engineered line of LONGER-LASTING TOOLS AND ACCESSORIES



The extra care, metallurgy and precision in each I-R tool and accessory does make a difference. Write for new Bulletin 4126.

Ingersoll-Rand
11 Broadway, New York 4, N. Y.

ROCK DRILLS • AIR TOOLS • DIESEL AND GAS ENGINES
COMPRESSORS • CENTRIFUGAL PUMPS • VACUUM EQUIPMENT

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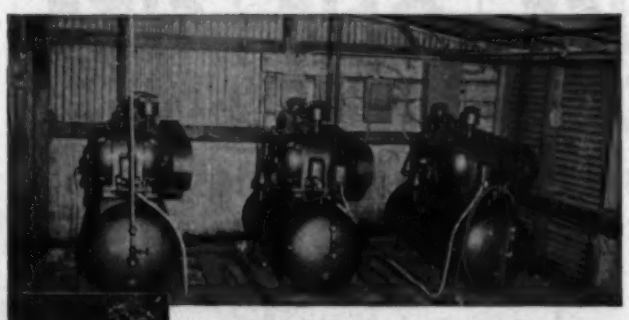
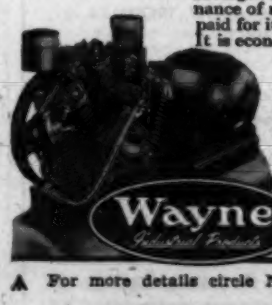
"PAID FOR ITSELF IN LABOR SAVED"



WAYNE *Production-Booster* COMPRESSORS
PRE-TESTED GUARANTEED FULL-RATED AIR POWER ON EVERY JOB

● In cotton warehouse of Shiner Compress & Warehouse Co. at Shiner, Texas, Wayne Air Compressors have proved their ability to boost production and save money too! The cotton cleaning unit consists of three 6408H, 10 HP Wayne electric air compressors arranged to use one, two or all three at once, depending on the amount of air needed.

The words of the manager speak for the success of Wayne Compressors, "Four men on this unit can clean more cotton per hour than twenty or more by hand picking. I have also connected the line to the sprinkler system to maintain pressure . . . now use air on my Loose press instead of steam with big savings . . . air on grease guns allows easier maintenance of rolling stock. This Wayne unit has already paid for itself in eight months by actual labor saved. It is economical to run and the maintenance is about nil."



If you want to get the most for your dollar invested be sure to investigate the extra value you get in every Wayne Production-Booster Air Compressor. Remember you get guaranteed, full-rated output in every Wayne compressor. Write for the booklet that tells you all about how to boost production.

Wayne Industrial Products
THE WAYNE PUMP CO.
Industrial Division • FORT WAYNE, INDIANA
Salisbury, Maryland • Toronto, Canada

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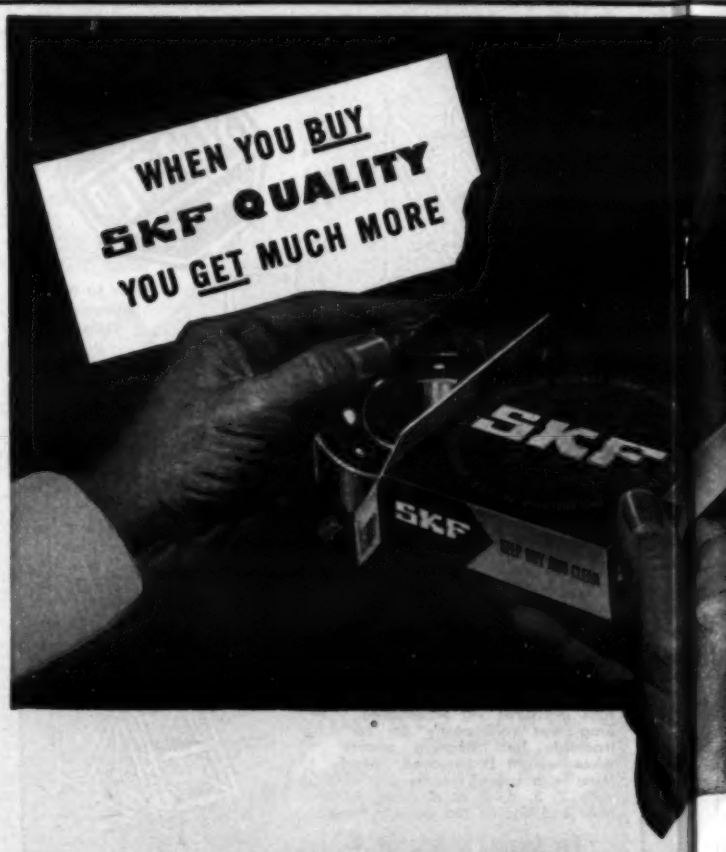


SKF INDUSTRIES, INC., PHILADELPHIA 32,
manufacturers of SKF *and* HESS-BRIGHT® bari

▲ For more details circle NED-548 K5 on

oudaille Magnetic Separators

E $2230 ANNUALLY

r Leland Electric Company*

• Coolant contamination is no longer a problem in Leland Electric's armature shaft grinding department.

Five Houdaille Magnetic Separators—mounted on grinder sumps—provide machines with a constant supply of clean coolant. Separator shown at left removes 62 pounds of ferrous metal chips and sludge daily.

Annual savings in coolant and maintenance costs total $2,230. Other benefits include longer wheel life, better product finish, more sanitary working conditions.

Write for Equipment Bulletin 601 and 4-page Leland case history.

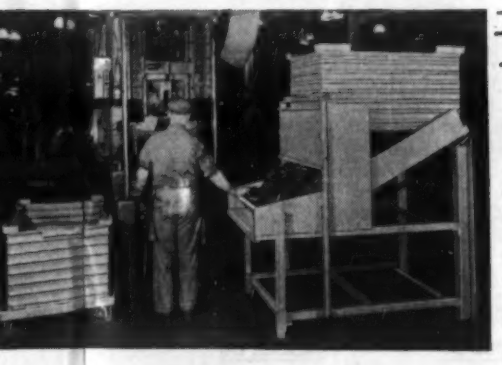
of Indiana

DAILLE-HERSHEY CORP.
05 Wabash Avenue
Lebanon, Indiana

HOUDAILLE-HERSHEY OF INDIANA, INC.
FILTRATION DIVISION

NED-546 K5 on enclosed inquiry slip ▲

with multi-feature
latics*



positioning hoppers.

AL
ipment

*Patent No. 2,445,038. Other patents pending.

NED-547 K5 on enclosed inquiry slip ▲

To buy from an *authorized* SKF Distributor is to get extra values that cost you nothing...

The advice, when needed, of men who have and are taking SKF's courses in bearing selection, installation, and maintenance.

The use of SKF sound slide films and literature to train your own men on ball and roller bearings.

Prompt delivery of *any* SKF Bearing or Pillow Block from your distributor, who is backed by a nearby SKF warehouse stock.

Special-problem assistance from SKF's Field and Home-office service-engineering staff—the most experienced in the industry. 7618-A

The right bearing *from* the right place puts the right bearing *in* the right place.

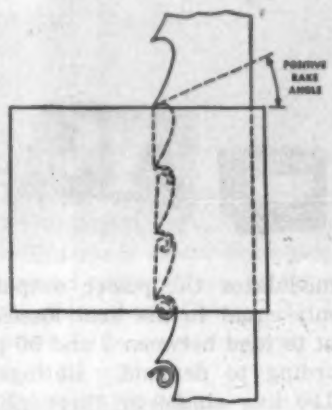
SKF
BEARINGS AND PILLOW BLOCKS

LADELPHIA 32, PA.,
S-BRIGHT® earings.

e NED-548 K5 on enclosed inquiry slip ▲

BAND SAW BLADES
feature positive rake angle

Teeth of Hook Tooth band saw blades incorporate a positive rake angle and a smooth blending of radii in the tooth gullet. Easy cutting, long life blades have high rate of chip removal and are cool running. Rake angle inclines teeth toward work for more bite with lower feed pressure. Blades will cut wood, plastics, paper, nonferrous metals, ferrous castings and mild steels with thick cross sections. Standard sizes range from 2 to 6 teeth per inch, ¼ to 1 in. width. Blades come in 100, 250 and 500 ft coils, or cut to length and welded. Made by **W. O. Barnes Co.**, Dept. B, 1297 Terminal Ave., Detroit 14, Mich.



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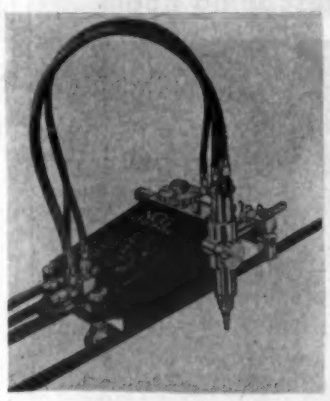
FLAME CUTTING MACHINE
weight decreased for portability



Weight under 30 lb, or 20 lb less than previous models, increases portability of this model 7 Cut - O - Matic portable flame cutting machine. Three - point precision suspension system insures 4-wheel rolling contact with plate at all times, minimizing error at the torch when cutting rough or scaly plates. Valve block permits preheat adjustments to be made at the machine. Other features include arc resistant rotary switch, a three-hose torch in standard type or with swivel head adjustable up to 90 degrees in either direction, and a floating torch assembly. Cutter is offered with either 110-115 v ac-dc or 220-v ac motor, standard or slow speed. Made by **National Cylinder Gas Co.**, 846 N. Michigan Ave., Chicago 11, Ill.

▲ For more details circle NED-550 K5 on enclosed inquiry slip ▲

Materials Handling Studies

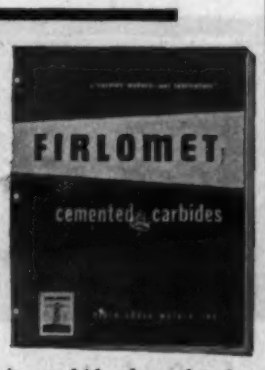
Lewis-Shepard Products, Inc.—Twenty-five folders which describe interesting applications of materials handling equipment are contained in "Case Studies" package. Included are solutions to materials handling problems, suggested ways to reduce costs, and methods of gaining additional storage space.

▲ For more details circle NED-551 K5 on enclosed inquiry slip ▲

THIS NUMBER

BRINGS YOU THIS CATALOG

telling you of an important new source of cemented carbides



FIRLOMET, a new true low-porosity carbide, has *already proved* its greater resistance to edge wear, chipping and cratering. It's a carbide with greater impact strength and more uniform qualities throughout.

Yet FIRLOMET *costs no more.*

Here's why: Firth-Loach's new laboratory-like plant (all new equipment, the very latest of its type) makes possible unusually precise production control. The laboratory-like approach to carbide-making, with rigid inspections at every step, results in a finer carbide.

Take this first step: Our new catalog describes all types, sizes and grades of FIRLOMET, gives price information. Send for it today.

FIRLOMET

FIRTH-LOACH METALS, INC.
Buttermilk Hollow Road, McKeesport, Pennsylvania
"Carbide Makers—Not Fabricators"

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you can Count ▶ BETTER ▶ LONGER ▶ FASTER

PIC-600 TWINS

50 million count life — conservative rating.

1000 counts per minute — faster with suitable actuation.

7 watts power consumption

Balanced armatures (for accurate performance on airborne equipment).

Quiet operation. No AC hum when energized.

Dust-resistant, one-piece die-cast enclosure with close fitting cover.

Available in Basement and Standard-mount Models for 60, 40-50, and 25 cycles, also DC all voltages to 150.

Ask your PIC Representative or send for literature

PIC PRODUCTION INSTRUMENT CO
700-12 W. Jackson Chicago 6, Illinois

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Anywhere you go

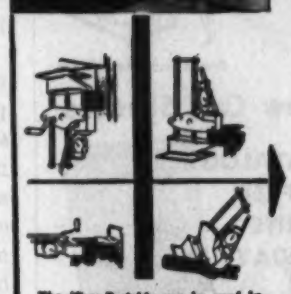
THE KING PORTABLE CAN GO TO MAKE ACCURATE BRINELL TESTS

Accuracy guaranteed to well within ASTM requirements.

You can make accurate Brinell tests in the field, in the yard, factory, shop, warehouse and laboratory with the versatile KING PORTABLE. This precision unit soon pays for itself many times over because it saves handling and set-up time. In addition:

1. it puts a load of 3000 kg on a 10mm ball—other loads as required.
2. it has a narrow, shallow nose at the anvil and base to get into small, cramped spaces, tubes or cylinders.
3. it has a removable test head to test parts of any size.
4. it eliminates test bars—there's only one impression to read.
5. it is especially adapted for testing immovable parts or parts in assembled machines.

Ask for information on the many additional advantages you'll find so beneficial.



The King Portable can be used in any position—even upside down.

ANDREW KING • BOX 606 W ARDMORE, PA.

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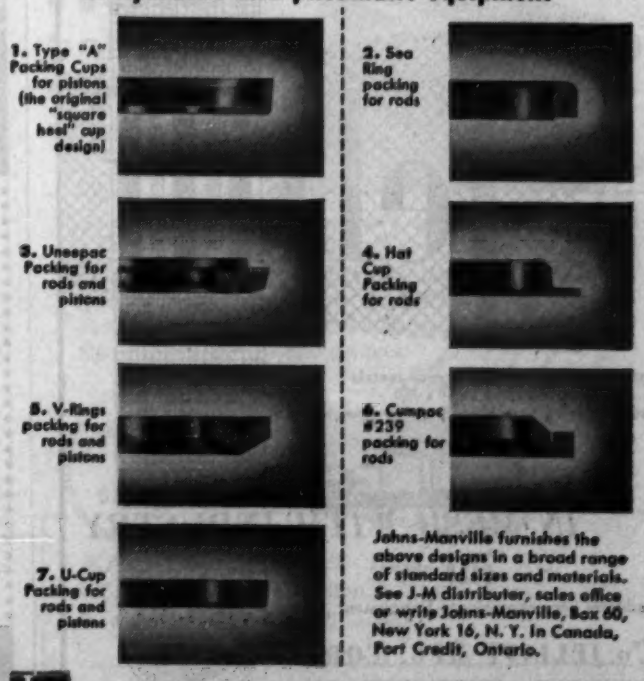
Simplify your sealing problems... with

JOHNS-MANVILLE PRECISION MOULDED PACKINGS
for pressure applications
in hydraulic and pneumatic equipment



1. Type "A" Packing Cups for pistons (the original "square heel" cup design)
2. Seo Ring packing for rods
3. Unospac Packing for rods and pistons
4. Hat Cup Packing for rods
5. V-Rings packing for rods and pistons
6. Cumpac #239 packing for rods
7. U-Cup Packing for rods and pistons

Johns-Manville furnishes the above designs in a broad range of standard sizes and materials. See J-M distributor, sales office or write Johns-Manville, Box 60, New York 16, N. Y. In Canada, Port Credit, Ontario.

JM Johns-Manville MOULDED PACKINGS

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Don't junk leaky valves-*Reseat 'em!*

Pays for itself on the first 2 jobs!

Reseats flat and tapered seat globe or angle valves—all bibbs, faucets—quickly and accurately. The saving, over tearing out and renewing leaky valves and fixtures, is tremendous.

Cutters operating under screw feed, leave worn, scored seats glass smooth, level, absolutely tight. The cutter rotates on a level plane and is advanced by slight turns of the feed screw until the job is done.

A guide pilot centers each cutter; a tapered cone centers each spindle. Perfect alignment is inevitable. Cutters guaranteed. Write for literature!

2" for ¼" to 2" valves and ¼" to ¾" bibbs $47.75

3" for ¼" to 3" valves and ¼" to ¾" bibbs $62.50

M. B. SKINNER COMPANY, South Bend, Indiana

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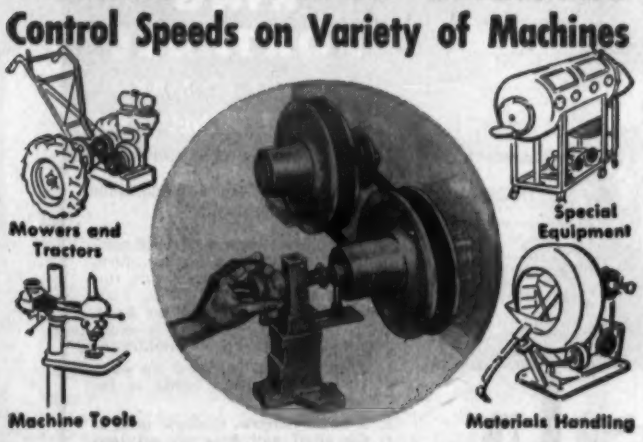
SPEED SELECTOR
VARIABLE PITCH SHEAVES
Control Speeds on Variety of Machines



New! Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

SPEED SELECTOR INC.

120-N NOBLE COURT • CLEVELAND 13, OHIO

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WIRE MESH

Specializing in the non-ferrous metals in counts to 200 x 200 or 50 x 750 and widths up to 48" in all commercial weaves

IN MESH WITH INDUSTRY

Since 1880

address your enquiries to Department 11

The C. O. JELLIFF MFG. CORP.

SOUTHPORT • CONNECTICUT • USA

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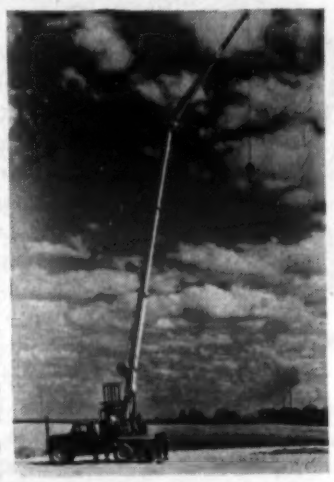
STEPLESS TEMPERATURE CONTROL
for electrical heating equipment

Plastic machinery, electric furnaces, kilns and ovens are typical of the equipment that can be controlled by this improved stepless temperature controller.

It modulates the power output so that heat input is only equal to the heat losses. It will vary power input to load between 3 and 90 per cent automatically according to demand. Ratings range from 300 va to 110 kva single or three phase. Multiload units permit use on several loads on either 115 or 230 v. Made by **West Instrument Corp.**, 4353B W. Montrose Ave., Chicago 41, Ill.

▲ For more details circle NED-559 K5 on enclosed inquiry slip ▲

HYDRAULIC TRUCK CRANE
18,000-lb capacity unit offered with 36 or 50-ft telescoping boom

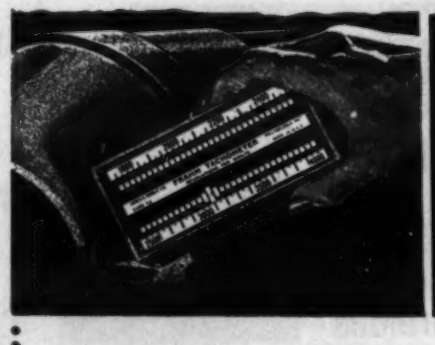


Highly maneuverable H-5 all-hydraulic Hydrocrane, designed for mounting on conventional motor truck, is available as ½-cu yd excavator and as a 9-ton lifting crane. It can be equipped with standard two-piece boom which telescopes from 24 to 36 ft long, or with optional three-piece boom extendible from 38 ft to 50 ft. Crane is self-powered with 75-hp Ford power plant mounted on upper deck. Attachments include a dual-ram ½-cu yd clamshell bucket and a 39-in. diameter lifting magnet powered by 5-kw generator driven from power plant.

Unit features precise hydraulic control; four outriggers for stability; gooseneck construction at boom point; welded steel boom; alloy steel revolving frame; simple deck machinery; and fingertip controls. A remote control unit to operate truck from crane cab is available as an extra. With boom resting over truck cab, crane can be moved smoothly through traffic and at speeds up to 50 mph on open highway. Made by **Bucyrus-Erie Co.**, Publicity Dept. 1046 Monroe Ave., South Milwaukee, Wis.

▲ For more details circle NED-560 K5 on enclosed inquiry slip ▲

FRAHM® RESONANT REED TACHOMETERS



WRITE FOR BULLETIN 31-I

. . . for Quick, Accurate, Safe Speed Measuring

Simply touch the Frahm Tachometer to the frame or casing of motor or machine . . . or mount it any place most convenient for reading . . . no need for contact with dangerous moving parts. The phenomenon of resonance activates accurately tuned steel reeds to give you dependable direct speed readings. Can be bench mounted with stimulator rods for production and inspection testing when quickness and accuracy count. Instrument imposes no load on machine under test. Frahm Tachometers require no maintenance because they have no wearing parts, need no oiling and cannot overspeed. Wide selection of ranges from 900 to 100,000 rpm can be supplied. Write for BULLETIN 31-I.

For complete file of centrifugal and chronometric tachometers, write for BULLETIN 35-D.

JAMES G. BIDDLE CO.

Electrical & Scientific Instruments

1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle NED-561 K5 on enclosed inquiry slip ▲

PROBLEM: A tight seal for a hot spot. To protect seams in outer shell of automatic clothes washer from rust and corrosive action of hot water and detergents.

SOLUTION: Presstite Hi-Temperature Sealer No. 589 applied to outer shell seams. Excellent adhesion is unaffected by prolonged temperatures up to 250° F.

DO YOU HAVE A SEALING-DESIGN PROBLEM? Presstite has been developing and producing special sealants for industrial designers since 1924. May we help *you?*

PRESSTITE SEALING COMPOUNDS

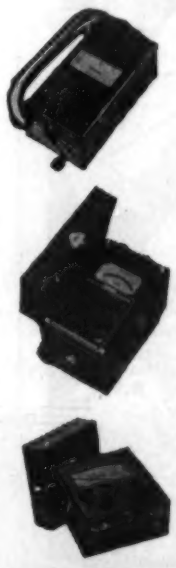
In Canada: Railway & Power Engineering Corp., Ltd.

PRESSTITE ENGINEERING COMPANY

3742 Chouteau Ave. St. Louis 10, Mo.

▲ For more details circle NED-562 K5 on enclosed inquiry slip ▲

PREVENT BREAKDOWN OF ELECTRICAL EQUIPMENT BY PERIODIC CHECK WITH
STICHT "MEGOHMER"
INSULATION TESTERS



HAND CRANKING GENERATOR TYPES:

"MINOR"	"MAJOR"	"STANDARD"
Variable Pressure 0-50 Megohms 100/250/500 Volts *Bull. 450*	Constant Pressure 0-50 Megohms with extra ohm scale 500 Volts *Bull. 465*	Constant Pressure Heavy Duty up to 2000 Megohms 500 or 1000 Volts *Bull. 455*

NON-CRANKING BATTERY-VIBRATOR TYPES:

MODEL B-7	MODEL B-8
0/20/200 Megohms 500 Volts 200/20,000 Ohms *Bull 440*	0/200 Megohms 500 Volts. 0/2000 Ohms with extra AC & DC Voltmeter Ranges *Bull. 441*

PLUG-IN TYPE:

115 V. AC Line Operated. New Model P-1

Test Potential 500 V. DC or 1000 V. DC.

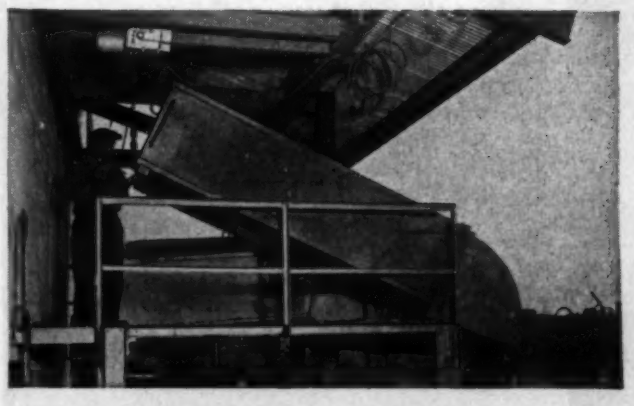
Ranges: 0-100 or 0-1000 or 0-2000 Megohms.

Bulletin No 451

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

▲ For more details circle NED-563 K5 on enclosed inquiry slip ▲

Bearcat Electric Hoist cuts scrap handling time



Loading scrap at this plant was formerly done by hand. It took two men the better part of a day to load a truck. Now, with a Bearcat Electric Hoist and tilt-bins, the same job is done in about 20 minutes. The plant cuts handling costs, gets better scrap disposal service. The dealer saves time. Investigate Bearcat Electric Hoists. They lift light to medium loads—170 to 4000 pounds—and require little maintenance. Ask your authorized industrial distributor for Bulletin P-53. Or write us.

THE HARRINGTON COMPANY

Makers of Hoists Since 1876

GRAVERS ROAD AT THE TURNPIKE, PLYMOUTH MEETING 16, PA.

▲ For more details circle NED-564 K5 on enclosed inquiry slip ▲

What size broach do you need?

American MAKES IT

Whether it is a large involute spline broach or a small round broach, you will get the tool that is best fitted to your needs when you specify American. American builds all three — tools, fixtures and machines. Your requirements get the benefit of American's over-all experience in every phase of broaching.

American MAKES ALL 3 { BROACHES, FIXTURES, MACHINES

For a quotation on your broaching problem, send a print or sample part to Dept. M or write for Catalog 450.

American BROACH & MACHINE CO.
A DIVISION OF SUNDSTRAND MACHINE TOOL CO.
ANN ARBOR, MICHIGAN

▲ For more details circle NED-565 K5 on enclosed inquiry slip ▲

Fast POWERFUL Lightweight

NATIONAL MODEL 400

CUTS FINISHING COSTS!

National Sanders are made for tough use on production lines. Properly used, they will cut sanding time up to 75% over hand sanding . . . reduce operator fatigue . . . and, at the same time, produce a better finish. These lightweight, vibrationless block sanders can be used on wood, metal, plastic, felt, stone, and other surfaces. Write for more information today.

NATIONAL NS SANDERS

NATIONAL AIR SANDER, INC.
2818 AUBURN ST., ROCKFORD, ILL.

▲ For more details circle NED-566 K5 on enclosed inquiry slip ▲

NEW *Ametron*®

• MINIATURIZED RECORDING DIGITAL COUNTER

COMPACT — STURDY — ECONOMICAL

- Accumulates and records in printed form digital information
- Accepts pulses at rates up to 1000 CPM
- Prints on 2 inch wide tickets or standard 2¼ inch adding machine tape
- Automatic or manual reset available
- Both counting and printing circuits may be actuated by momentary closure of external contacts

Write for illustrated bulletin MD-15

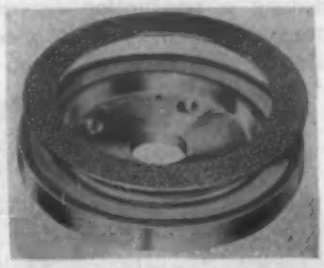
STREETER-AMET COMPANY
4801 RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

THE STANDARD OF ACCURACY SINCE 1888

Branches in Detroit, Pittsburgh, Allentown, Birmingham, Los Angeles

▲ For more details circle NED-567 K5 on enclosed inquiry slip ▲

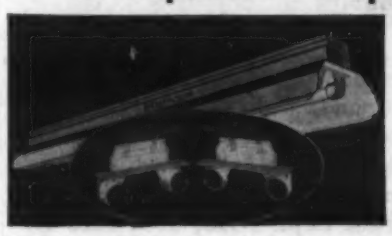
MAGNETIC CHUCK
with demountable diamond rings



Standard single point carbide tool grinders can be equipped with a magnetic chuck which, once it is trued, holds diamond rings in place by magnetic force. Chuck itself becomes a part of the grinder. Rings can be removed almost instantly with a screwdriver inserted under the ring edge. No truing is required. Chuck is 6 in. diameter and will handle ¾-in. face single layer or impregnated diamond rings. Made by **Super-Cut, Inc.**, Dept. 1, 3418 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle NED-568 K5 on enclosed inquiry slip ▲

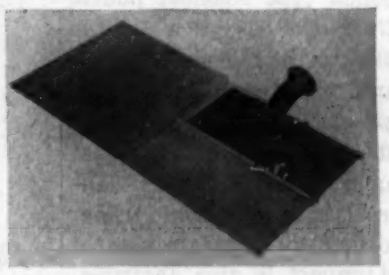
FLUORESCENT LAMPHOLDERS
for rapid-start lamps



Springlox metal-clad and metal-back turret type lampholders for 800 MA rapid-start fluorescent lamps are available for use with both two and three-lamp units. Lampholders are offered in Lite-Line, Twin-Flo and Triple Flo lines of industrial lighting equipment which make use of the double contact, recessed base lamp. Made by **Benjamin Electric Mfg. Co.**, Dept. W, Seegers Rd. & Northwest Highway, Des Plaines, Ill.

▲ For more details circle NED-569 K5 on enclosed inquiry slip ▲

DRAFTLESS AIR DIFFUSER
mounts directly in ceiling

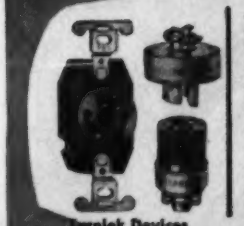


A standardized, smaller version of the Multi-Vent units used for years in railroad cars, Modular Multi-Vent air diffuser is adaptable to commercial and industrial heating and air conditioning systems. It uses a perforated ceiling panel to introduce air vertically and at low velocity into a room or working area. Perforations reduce 1000 to 1500-fpm velocity air in duct down to 40 or 50 fpm. In addition to being draftless, diffusers are completely concealed from view. They offer no interference with light fixtures, and partitions can be moved as required. Panels are available for use with metal pan, plaster and acoustical tile type ceilings. Made by **Pyle-National Co.**, Multi-Vent Div., 1342 N. Kostner Ave., Chicago 51, Ill.

▲ For more details circle NED-570 K5 on enclosed inquiry slip ▲

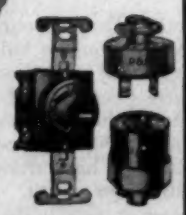
built for the rugged job

P&S TURNLOK® AND POLARIZED DEVICES



Turnlok Devices

P&S TURNLOK® LINE—Designed for quick easy back or side wiring. A simple turn of the cap gives positive, dependable connections—won't loosen or short out from hard usage. Ampere rating plainly visible on face of receptacles. Connectors, receptacles and caps available in 10 and 20 Amp., 2, 3, and 4-wire types.



Polarized Devices

P&S POLARIZED DEVICES—Built sturdier with extra thick bodies and extra heavy metal parts to withstand rough usage over long periods of time. Ideal for industrial plants and construction work. A complete line of 10 and 20 Amp., 2, 3, and 4-wire connectors, receptacles and caps.

Write today for free catalogs on P&S Turnlok and Polarized Devices to Dept. NED-4

PASS & SEYMOUR, INC.
P&S Syracuse 9, N. Y. 71 Murray St., New York 7, N. Y.

▲ For more details circle NED-571 K5 on enclosed inquiry slip ▲

NEW ALL-JACKETED Gate Valve WITH REPLACEABLE SEATS

Valves in line size 1½" through 4" available in cast iron, steel, bronze, Ni-Resist and stainless steel.

Valves in line size 6" through 12" are made of fabricated steel or stainless steel.

The H&B "all-jacketed" gate valve does not need to be removed from the process line to re-machine the seats. Replacement inserts can be installed in a matter of minutes, minimizing shut-down time . . . Also jacketed pipe, fittings, plug cocks, pumps, meters, flexible hose. Write for Catalog J-50.

HETHERINGTON & BERNER INC.
Engineers, Manufacturers
719 KENTUCKY AVE. INDIANAPOLIS 7, IND.

▲ For more details circle NED-572 K5 on enclosed inquiry slip ▲

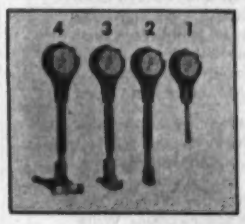
This is IT

The New Dial Indicator BORE GAGE

FOOLPROOF CENTRALIZATION

- *Meets the great majority of all hole inspection needs*
- *Longer gaging range*
- *Four gages inspect all diameters from ½" to 8"*
- *Accuracy protected from handling temperature*

Centralizer places contacts on true diameter of hole.



Write for complete details of the Model 1250 Bore Gage.

FEDERAL PRODUCTS CORPORATION
Dept. 11G, Providence 1, R. I.

Ask FEDERAL
FOR MODERN GAGES AND GAGING TECHNIQUES . . .
Dial Indicating, Air, Electric, or Electronic—for inspecting, measuring, or automation gaging.

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Loosen rusty nuts, bolts and couplings with:

Save time, save labor, prevent costly broken parts!

Cabot's Tasgon quickly cuts rust, gummed up oil and grease, hardened paint; penetrates the tightest places. Tasgon comes in handy "tool-kit-size" 3 ounce cans; also in pints, quarts and gallons.

Samuel Cabot

Send for FREE SAMPLE

SAMUEL CABOT INC.
1032 Oliver Building, Boston 9, Mass.
Please send me a sample of Tasgon.

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STEADY, HIGH-OUTPUT PRODUCTION!

Dahlstrom

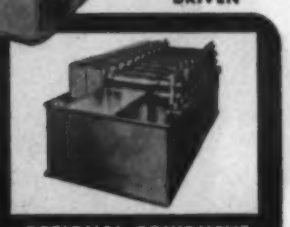
COLD ROLL FORMING MACHINES

Our design, construction, and engineering will give you fast, dependable operation with close tolerances for best results at lowest cost.

WORM GEAR OR SPUR GEAR DRIVEN

COMPARE THIS CONSTRUCTION

- All-welded, anti-friction bearings, alloy steel shafts.
- Worm gear type features: Greater roll diameter range; maximum vertical adjustment; infinite adjustment of outboard supports; hardened alloy steel gears; individual gear box design.
- Spur gear type features: Efficient increased gear capacity; hardened alloy steel gears; close horizontal center to center.
- Available in shaft diameter range of 1" to 5".



OPTIONAL EQUIPMENT AVAILABLE

Coolant system; variable drive; straightener; brake and clutch. Give complete specifications as to requirements for quotation.

Dahlstrom MACHINE WORKS INCORPORATED

Roll forming machines, flying cut-off presses, coil reels, coil lifts, roll straighteners, decoiling roll feed lines, decoiling and shearing lines.
4235 West Belmont Ave., Chicago 41, Ill., Phone: SPring 7-3670

▲ For more details circle NED-575 K5 on enclosed inquiry slip ▲

CONVERT YOUR PRESSES TO AUTOMATIC OPERATION WITH U. S. AUTOMATIC PRESS ROOM EQUIPMENT

You can obtain all the advantages of automatic operation in your press room with U.S. Equipment. U.S. Slide Feeds, Stock Reels, Straighteners, Coil Cradles, Scrap Choppers, etc. are designed and built to provide increased efficiency, greater production, material savings and reduced labor costs in the fabrication of stampings. The photograph—courtesy of Whirlpool Corp., manufacturers of home laundry equipment—illustrates a set-up of U.S. Automatic Press Room Equipment in use at their plant.

U.S. Slide Feeds are recognized as the most accurate automatic feeds in the market. They can pull material, within their capacity, through a plain stock straightener and still maintain controlled accuracy. Bulletin No. 80-N contains complete specifications. Write for your copy.

U.S. PRODUCTS

SLIDE FEEDS
ROLL FEEDS
STRAIGHTENERS
STOCK REELS
COIL CRADLES
OILERS — WIPERS
SCRAP CHOPPERS
MULTI-STOP
U.S. MULTI-SLIDES
U.S. MULTI-MILLERS

U.S. TOOL COMPANY, Inc.

AMPERE (East Orange) NEW JERSEY
Builders of U. S. Multi-Slides — U. S. Multi-Millers
U. S. Automatic Press Room Equipment — U. S. Die Sets and Accessories

▲ For more details circle NED-576 K5 on enclosed inquiry slip ▲

PRACTICAL COOLANT CLEANING

Automatically

WITH

BARNESDRIL MAGNETIC SEPARATORS

Barnesdril Magnetic Coolant Separators remove swarf, sludge and abrasive particles *automatically* from soluble and oil coolants to give you practical coolant cleaning.

Built in ten sizes — 1½, 3, 5, 10, 20, 30, 70, 100, 280, and 350 gallons capacity per minute these Separators constantly recondition coolant for recycling in production machining operations. Savings result from improved production quality, reduced maintenance and tooling costs, cleaner machine conditions and prolonged coolant life.

Complete data in Bulletin 151Y

FILTRATION DIVISION
BARNES DRILL CO.
866 CHESTNUT STREET • ROCKFORD, ILLINOIS

▲ For more details circle NED-577 K5 on enclosed inquiry slip ▲

OBI PUNCH PRESS power machine is rated 2 tons

Having a production capacity of up to 250 operations per minute, this model BT-2 open back inclinable bench type punch press is rated 2 tons.

Quick - action single-pin clutch has simple positive nonrepeat action. Straight ram guides with flat gibs permit accurate fitting of dies for precision stamping. Accurate ram adjustment has positive lock, and frame can be tilted to any desired operating position. Machine can be used for stamping, shearing, forming, drawing, riveting, blanking, cutting and similar operations in metal, plastics, textiles, fiber, leather and paper. Standard stroke is ¾-in., with ¼ to 1½-in. strokes optional. Drive is by means of V-belt from ⅓-hp motor. Price is $127.50. Made by **Alva Allen Industries,** Dept. NED, 1001-1015 N. Third St., Clinton, Mo.

▲ For more details circle NED-578 K5 on enclosed inquiry slip ▲

SOLENOID PUNCH delivers 3500-lb blow

Staking, riveting, cutting, crimping, marking and bending are among jobs that can be done on this bench type solenoid punch. Unit can deliver a 3500-lb blow in a 1/5-second cycle and operates on 110 v single-phase power. It is available with single hand, dual hand or foot switch controls. A variable transformer for accurate control of impact is also available. Made by **High Speed Hammer Co.,** 315 Norton St., Rochester 21, N. Y.

▲ For more details circle NED-579 K5 on enclosed inquiry slip ▲

Rotary Files

Grobet File Co. of America, Inc.—Thousands of sizes, shapes and types of rotary files for use on hard and soft metals, plastics, wood and other materials are listed in 16-page illustrated catalog entitled "Rotary Files."

▲ For more details circle NED-580 K5 on enclosed inquiry slip ▲

IRD ends grinding chatter, cuts wheel balancing—3 hrs. to 20 min.

Using IRD Vibration Analyzers, The Timken Roller Bearing Company made this cut in downtime for routine balancing of each of its hundreds of grinders. IRD Vibration Analyzers—portable, accurate, simple—are taken TO the machines. They troubleshoot and balance the Timken Company's grinders to a .000090" vibration level or less—on the spot. What IRD Vibration Analyzers have done for this company's machine tools, they can do for yours.

Write for Bulletin G-3 and the whole story.

International Research & Development Corp.
Box 1707, Columbus 16, Ohio

IRD *balance—the final dimension of precision*

▲ For more details circle NED-581 K5 on enclosed inquiry slip ▲

Drill More Holes Per Hour In ANY Pattern... On ANY Drill Press

with a *Adjustable* **MULTI-DRILL**

DRILLS 2 to 8 HOLES at ONE STROKE

Increase production up to 800% ...save time, cut costs. MULTI-DRILLS make *any* drill press produce *more*. Attached without alterations or special tools. Quick, easy setups of universally adjustable spindles give you more flexibility . . . wider application. Handles any hole pattern within 9" circle; centers close as ½". Extension Spindles available to increase working area to 22½". Special adaptations available.

model 900

DRILLS ANY HOLE PATTERN

See your Commander Distributor for complete details. Write for the new Commander Full Line Catalog.

COMMANDER MFG. CO.
4220 W. Kinzie St. • Chicago 24, Illinois

Product of *Commander*... Builder of Production Tools

▲ For more details circle NED-582 K5 on enclosed inquiry slip ▲

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5 REASONS FOR USING "CANTON" PORTABLE CRANES

STRONGER
Welded laced steel housing on sturdy steel tube base.

LIGHTER
Weighs less than one half as much as previous models, insuring one-man operation.

VERSATILE
Adjustable extension handle provides additional leverage for heavy lifting.

SAFE
Self-locking worm mechanism holds load at any point.

TWO SPEEDS
Fast single-cable operation for light loads. Slower, double-cable operation for heavier loads.

The **HILL ACME** *Co.*
"CANTON" DIVISION
6404 Breakwater Ave. • CLEVELAND 2, OHIO

▲ For more details circle NED-583 K5 on enclosed inquiry slip ▲

HUNDREDS OF USES for the New Power-packed **KASSON** SHADED POLE INDUCTION TYPE

MIDGET ELECTRIC MOTORS *With Compact Gear Train*

- Geared to 6 RPM with torque of 20" lbs.
- Other models from 1 RPM to 1155 RPM

Exceptionally Low Price!

IDEAL FOR ROTISSERIES AND BROILERS • MOTION DISPLAYS • DISPENSERS • ACTUATORS • BARBECUE TURNERS • COIN OPERATED DEVICES • GAMES • TOYS . . . *and hundreds of other uses.*

Designed, manufactured and assembled in our own plant! Small, compact and highly efficient, these Kasson geared motors are constructed for long life under constant use. Consume no more than 15 watts. 110 volts AC, 50/60 cycles. We can also furnish stators and rotors separately for inclusion in special castings—or complete motors without gear trains. We will make special motors to your specifications on a quantity basis.

Roto-Sho Electric Turntables—quantity prices low as $4.00 ea.

Write now for complete details and prices to Dept. NED-105

KASSON DIE & MOTOR CORP.
Formerly General Die & Stamping Co.
32-14 NORTHERN BLVD., LONG ISLAND CITY 1, N. Y.

INTEGRITY SINCE 1919

▲ For more details circle NED-584 K5 on enclosed inquiry slip ▲

Simplify assembly and setting of Adjusting Screws

The new Tension Type PALNUT Lock Nut is tightened *once* when assembled and never touched again no matter how often the screw is adjusted. Only a screwdriver is needed.

TENSION TYPE **PALNUT** LOCK NUTS
Trademark

How it works:

Resilient spring design assures smooth but powerful hold on screw threads for accurate settings, despite vibration.

Barbs at the base prevent PALNUT from changing position when screw is adjusted. Back-off torque is twice installation torque.

Tension Type PALNUTS are lower in cost, require less space, are easier, more economical to assemble than other tension devices. They are adapted to manual or high-speed power assembly. Need no serrations, special holes or auxiliary holding means. Available for thread sizes 2-56, 4-36, 4-48, 6-32, 6-56 and 10-32.

Write for free samples and literature.

THE PALNUT CO., 45 Cordier St., Irvington, 11, N. J.

In Canada: P. L. Robertson Co., Ltd., Milton, Ont.

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FLEXIBLE
SPIROL PIN

No solid pin can withstand shock and vibration like Spirol Pin. Spirol is stronger; locks in the hole, yet can be removed without damage.

No other flexible pin is as strong as Spirol. The unique spiral cross-section exerts even, all-around tension — no weak "hinge" lines. Spirol diameters from 1/32" to 1/2".

SPIROL DOES IT BETTER IN:
- America's largest-selling AUTOMOBILE
- The new Eversharp Injector RAZOR
- Dictaphone's new DICTATING MACHINE
- American Hardware's new ADAPTA-LOCK

Free! Spirol Pin data and sample pins. Write today.

C. E. M. COMPANY • 92 SCHOOL ST. • DANIELSON, CONN.

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Gerotor Hydraulic Pumps are . . .

Gerotor's simple design and sturdy construction assures longer, trouble-free life for your hydraulic system!

Friction is the basis for all wear . . . Gerotor's exclusive rotor design cuts friction to a minimum. The Gerotor principle . . . heart of every Gerotor pump . . . is represented by a pair of gear-shaped elements, one within the other. Power is applied through the shaft to the inner Gerotor and is transferred in the closed mesh region to the outer Gerotor.

Each tooth of the inner Gerotor is in sliding contact with the outer Gerotor at all times, providing continuous fluid-tight engagement at very low contact speed. The contact points revolve only once in seven to nine revolutions, depending on the type of unit. ***This reduced friction permits higher shaft speeds, assures longer life.***

Due to high production facilities, Gerotor can produce special pump designs in ***quantities*** at an amazingly low price. Whatever your hydraulic pump problems, bring them to Gerotor.

FREE literature available . . . write:

GEROTOR MAY CORP.
1515 MARYLAND AVENUE • BALTIMORE 3, MARYLAND

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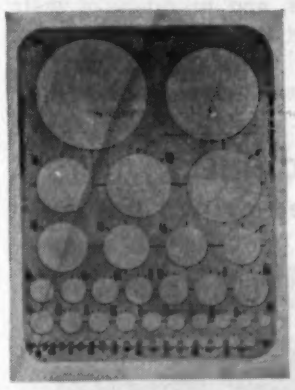
PRESS BRAKES in 30 and 50-ton capacities

Added to the Cincinnati line are the 2-30 (shown) and 3-50 series of light capacity press brakes. The 2-30 series has 30-ton capacity and will bend 6 ft of 14-gage mild steel. It has 2½-in. stroke, a 9-in. gap and 4-in. manual ram adjustment. The 3-50 series has 50-ton capacity and will bend 6 ft of 10-gage mild steel. It features a 3-in. stroke, 5-in. power adjustment to the ram and a 12-in. gap. This latter press brake is offered in two sizes with distance between housings of 6 ft 6 in. or 10 ft 6 in. and overall die surface of 8 ft or 12 ft. Made by **Cincinnati Shaper Co.**, Garrard & Hopple Sts., Cincinnati 25, O.

▲ For more details circle NED-588 K5 on enclosed inquiry slip ▲

CIRCLE TEMPLATE has circles from 1/16 to 3 in.



Forty-four precision milled circles are found on the Circle - Master template, made of rigid, nonglare acrylic vinyl plastic. Circles are grouped in progressive sizes. Diameters from 1/16 to 11/32-in. are in increments of 1/64-in.; from ⅜ to ¾-in. in increments of 1/32-in.; from 13/16 to 1 in. in 1/16-in. increments; and from 1⅛ to 1½ in. in ⅛-in. increments. Also included are 2, 2½ and 3-in. circles. All make allowance for a pencil clearance of 1/32-in. Four corners of the template are cut to give radii of ⅝, ¾, ⅞ and 1-in. diameters. Made by **Alvin & Co.**, Palisado Ave., Windsor, Conn.

▲ For more details circle NED-589 K5 on enclosed inquiry slip ▲

Tool Steel Simplified

Crucible Steel Co. of America—"Tool Steels for the Non-Metallurgist" is title of revised 44-page book which provides a practical understanding of tool steels without being overly technical. Text is confined to direct, familiar phrases. Six basic classifications of tool steels are discussed, properties of various types are covered, and recommendations are made as to which type of application is most suitable for each classification.

▲ For more details circle NED-590 K5 on enclosed inquiry slip ▲

***REMA** is the New and Amazing Self-Vulcanizing Rubber Repair Material*

REMA REQUIRES
- NO HEAT
- NO HEAVY EQUIPMENT
- NO CURING TIME DELAY

▼ REMA is not just another cold patch. REMA is vulcanization by chemical process. No heat or heavy vulcanizing equipment required. Here's the astonishing advantage — *when repair work is completed belts may be returned to service immediately.*

▼ REMA seals out moisture, reduces mildew, rot and deterioration — the great enemies of conveyor belts. Your own maintenance man can quickly repair your belts.

▼ Available in introductory kits or parts separately.

Order from your Flexco-Alligator distributor. Write for Folder No. R4

FLEXIBLE STEEL LACING CO., 4664 Lexington Street, Chicago 44, Illinois

REMA SELF-VULCANIZING RUBBER REPAIR MATERIALS

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UNIVERSAL DRILL BUSHINGS OUTLAST THEM ALL!

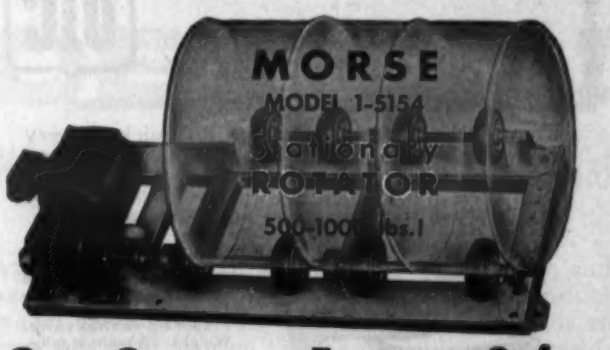
Machined from high quality steel. Superfinish bores reduce wear. Blended radius helps prevent tool hang-up and breakage. 100% concentricity and hardness tests insure accuracy and uniform quality. Available in a complete range of standard sizes and lengths. Orders for special dimensions promptly handled. Write for complete information.

180-A

UNIVERSAL ENGINEERING CO.
FRANKENMUTH 5, MICHIGAN

▲ For more details circle NED-592 K5 on enclosed inquiry slip ▲

HEAVY DRUM ROTATING



Cuts Costs . . . Fast . . . Safe

You can now mix, blend or tumble loads up to 1000 lbs. with the new MORSE Model 1-5154 Stationary ROTATOR. It is primarily engineered for heavy loads in 30 to 55 gallon drums yet lesser loads can be rotated with equal efficiency. Any diameter drum can be mounted by adjusting only three bolts.

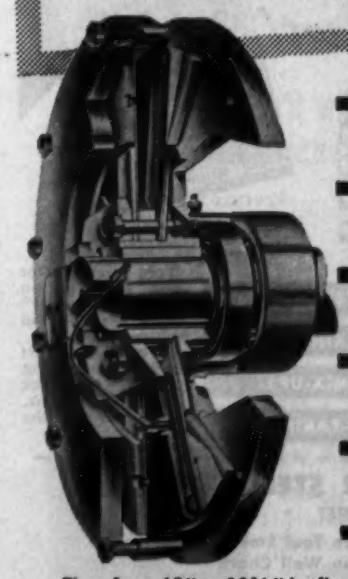
The rugged ½ H.P. motor can be geared to give any fixed speed from 5 to 30 RPM. Six inch drive wheels (4) and idler wheels (4) have Neoprene treads for smooth, non-slip revolving. Drive shaft, idler shaft and all welded steel frame are extra rugged construction for long-lasting, trouble free operation.

A double drum model No. 2-5154 with a 2000 lb. capacity is also available. Write today for brochure on complete Morse line.

MORSE MANUFACTURING CO. INC.
756 West Manlius St. East Syracuse, N. Y.

▲ For more details circle NED-593 K5 on enclosed inquiry slip ▲

FRICTION AIR CLUTCHES TO YOUR SPECIFICATIONS



- No adjustment
- No moving parts to wear out
- No slip when fully engaged
- Compact design... Less shaft space
- No drag when disengaged

Sizes from 12" to 33¾" in diameter, single, double or triple plate with capacities ranging from 9,000 to 1,080,000 inch pounds torque. Automatic or manual engagement. Supplied in any quantity to manufacturers only.

Patented and Manufactured by
BOX 2001 DEPT. 1 **CARDWELL MFG. CO. INC.** WICHITA KANSAS

▲ For more details circle NED-594 K5 on enclosed inquiry slip ▲

RUBEROID
CORRUGATED ASBESTOS SHEETS CUT BUILDING COSTS

- Light in weight, strong in performance...permit lighter footings, foundations and framework.
- Fireproof, weatherproof, non-corrosive... ideal for installations exposed to acid, fumes, smoke or steam.
- Eliminate the cost of paint maintenance.
- Used for roofing or siding exteriors... or inside for practical and attractive partitioning.

For more information call your nearest Ruberoid district office or write:

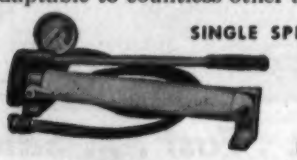
The RUBEROID Co.
Executive Offices:
500 Fifth Ave., New York 36, N. Y.
ASPHALT AND ASBESTOS BUILDING MATERIALS

▲ For more details circle NED-595 K5 on enclosed inquiry slip ▲

3 NEW HYDRAULIC PUMPS FOR INDUSTRY

OTC

Compact, self-contained pumps for quick delivery of hydraulic power for production or maintenance. Precision engineered and built by OTC for use with their well known Hydraulic Tools. Readily adaptable to countless other applications.



SINGLE SPEED HAND-OPERATED
Remote control operates vertically or horizontally. Develops 10,000 P.S.I. Finger tip control valve. Weight: 15 pounds only.

ELECTRICALLY DRIVEN
For production and maintenance—assures continuous power flow with overload valve. Develops 11,000 P.S.I. Single piston, "V" belt drive, reciprocating type. ½ HP. 60 cycle, 1725 RPM. Other motors optional.

TWO SPEED HAND-OPERATED
Low or high pressure by changing handles. Two pistons ¾" and ½" develop 3,000 or 10,000 P.S.I. Pump units without reservoir for pressures up to 20,000 P.S.I. also available.

See your jobber or write for complete data.
OWATONNA TOOL COMPANY
436 CEDAR ST. • OWATONNA, MINNESOTA

▲ For more details circle NED-596 K5 on enclosed inquiry slip ▲

POSITIVE TOOL STEEL IDENTIFICATION

WITH THIS NEW
12-Color Chart!

Now . . . to help you eliminate costly tool steel mix-ups, Carpenter Matched Tool & Die Steel bars are painted FULL LENGTH with distinctive colors! This *practical* marking system, along with this new Wall Chart printed in colors that match the completely-painted bars, enables you to . . .

- QUICKLY IDENTIFY TOOL STEELS!
- REDUCE YOUR OWN MARKING COSTS!
- AVOID COSTLY STOCK MIX-UPS!
- SIMPLIFY INVENTORY-TAKING!

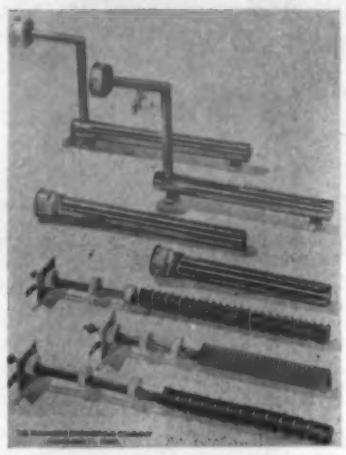
Tool Steel Selector and Identification Wall Chart — 21" x 30"—printed in *12 colors!* To cash-in on this new color-marking system, send for your Wall Chart, *now*. Just mail the coupon.

THE CARPENTER STEEL COMPANY
118 WEST BERN STREET • READING, PA.
Please send me the free Tool Steel Selector and Identification Wall Chart.

NAME.....TITLE.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....
(PLEASE PRINT)

▲ For more details circle NED-597 K5 on enclosed inquiry slip ▲

ELECTRIC HEATING ELEMENTS in immersion, open and enclosed types for many industrial uses

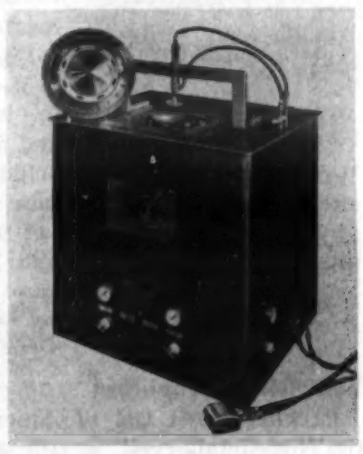


Offered for use in furnaces, ovens and industrial equipment, line of electric heating elements includes wide range of types, sizes and ratings. Direct immersion units are available for heating or melting of lead, tin, salts, oil and solutions. They are available in straight or "over the side" types with brass, steel, Monel or stainless jackets for temperatures up to 1400° F. Open furnace and oven heating elements will operate at temperatures up to 1900° F.

Bayonet type elements are usable for electrically heated radiant tubes. Also offered are open or enclosed electric heaters for radiant or forced convection heating applications, for process heating requirements, and for use in recirculating type heaters, furnaces and ovens. These heavy duty elements can be furnished in any required rating for operation on standard and special voltages and in range of watt densities. Made by **Trauwood Engineering Co.**, Dept. H-10, 15320 Brookpark Rd., Cleveland 11, O.

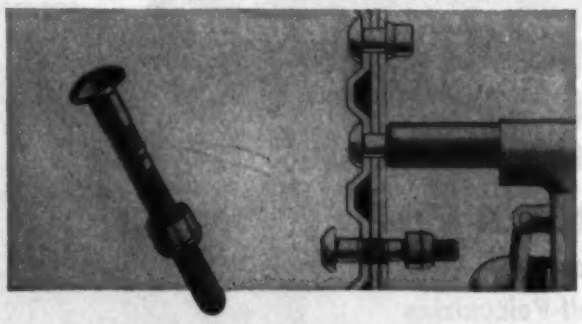
▲ For more details circle NED-598 K5 on enclosed inquiry slip ▲

SPRAY-PAINTING MACHINE for round and deep-drawn parts



Painting of round and deep-drawn parts such as hub caps, toys or nameplates is easily done on this automatic rotary spray - painting machine which handles areas with diameters up to 15 in. Part is clamped into a mask by depression of foot pedal or hand valve. Spray guns operate to a predetermined setting, and clamping cylinder retracts after cycle is completed. Guns rotate beneath the mask, or can be used in fixed position. Four dials on front control atomization of air to gun, speed of gun rotation, length of spray time and the machine air for automation. A ¼-hp motor and fan provide the 900-cfm of free air required by this totally-enclosed machine. Made by **Conforming Matrix Corp.**, 338 Toledo Factories Bldg., Toledo 2, O.

▲ For more details circle NED-599 K5 on enclosed inquiry slip ▲



Quick as a Wink—You Get Secure, Permanent Fastening With Townsend Lockbolts

In less than a second, with one squeeze of the trigger, a Townsend lockbolt pulls the work together with a high clinching action, is locked in place with uniform pressure. It is a quick method of producing tight, rigid, permanent fastenings that cannot loosen even under extreme vibration or shock conditions.

Townsend lockbolts combine the advantages of riveting and bolting—eliminate the disadvantages. Installation is fast—under certain conditions, one man will install 30 in only 60 seconds. Fewer workers will complete an assembly in less time than when riveting or bolting.

Townsend lockbolts are available in steel and aluminum alloy, in 3/16", ¼", 5/16" and ⅜" diameters, in grip lengths ranging up to 2", in various head styles. Write for bulletin TL-101.

Licensed under Huck patent nos. RE 22,792; 2,114,493; 2,527,307; 2, 531,048; 2,531,049

Townsend Company
NEW BRIGHTON, PENNSYLVANIA

▲ For more details circle NED-600 K5 on enclosed inquiry slip ▲

NEW BELLOWS TYPE FLEXIBLE COUPLINGS

Bellows type flexible couplings offer special advantages over the more common forms of flexible couplings or "universal joints".

In addition to compensating for shaft misalignment, Clifford bellows type couplings offer the further advantages of *complete absence of backlash, and the delivery of true constant velocity from the driving shaft to the driven shaft even when the coupling is under deflection.* Simple flexing of the bellows convolutions absorbs any misalignment between shafts.

In such problem applications as computer drives, motor operated positioning devices, counting devices and constant speed devices where exact velocity or shaft position must be transmitted from one shaft to another, a bellows type coupling is an ideal solution.

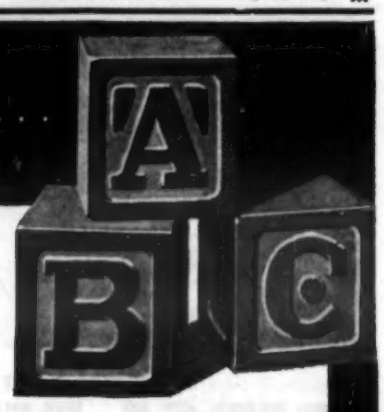
Clifford couplings utilize a special bronze bellows having carefully proportioned convolutions and end fittings for this type of service to insure maximum life.

They are available for shaft sizes of 3/32", 1/8", 3/16", 1/4" and 3/8".

Inquiries should be addressed to: Mr. Myles McDonough, Clifford Manufacturing Company, 152 Grove Street, Waltham 54, Mass. Telephone: WAltham 5-7310. 7-5-77 *Advt.*

▲ For more details circle NED-601 K5 on enclosed inquiry slip ▲

as basic as . . .



Now you can buy ***CUSTOMIZED*** *conveyors in pre-fabricated* ***STANDARD*** *sections*

Sections can be assembled to form virtually any type of hinged-steel belt conveyor for handling stampings, formed metal parts, forgings, automotive scrap, chips and turnings and many other miscellaneous products.

Straight sections . . . concave or convex curved sections . . . take-up charge sections and discharge-end sections can be furnished to meet specific requirements of belt width as well as load bearing and volume capacities

Conveyors can be lengthened, shortened or modified in almost any way at minimum downtime and cost.

MAY-FRAN . . . a name long recognized in the materials handling field . . . is first again with *standardized* components for your *customized* installation.

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Road • Cleveland 12, Ohio

▲ For more details circle NED-602 K5 on enclosed inquiry slip ▲

INDUSTRIAL MAGNIFIERS

We'll Send you either of these:

Sample Case

Sample case of actual magnifiers . . . over 50 types and sizes for you to try out on the job. They will be loaned on request to qualified firms. Folding magnifiers, loupes, bench-stand units, illuminated magnifiers are included.

Catalog I-67

Our 24-page catalog pictures and describes dozens of magnifiers from folding pocket units to illuminated bench models. It tells you what to look for in selecting one, why a good lens is important, gives prices.

One of our industrial magnifiers may be just the answer to a production or inspection problem in your plant. But which one? That's why we offer to loan you the assortment so you can get the feel of them, see for yourself how well they work, get acquainted with possibilities.

BAUSCH & LOMB OPTICAL CO.
51646 Bausch St., Rochester 2, N. Y.

For more details circle NED-603 K5 on enclosed inquiry slip

Save FLOOR SPACE and LABOR

with A-B-C SHORT CASE SEALER

Save two-thirds of your valuable floor space with the A-B-C Short Case Sealer—with increased packaging efficiency, more speed, less expense . . . Automatically glues, folds and seals either or both top and bottom flaps of shipping cases in one operation. Made in eight models to fit any production requirement. Hot air heaters dry the glue in one-half the time. Speeds up to 30 cases per minute.

TOP QUALITY CASE HANDLING EQUIPMENT

Whatever your packaging job, A-B-C has a production proved machine for you—case sealers, unloaders and unscramblers, side sealers, and hand gluers.

WRITE NOW FOR DETAILS AND FLOOR PLANS

A-B-C PACKAGING MACHINE CORP. QUINCY, ILLINOIS

For more details circle NED-604 K5 on enclosed inquiry slip

Stop Vibration
Mobilize Machinery
Cut Noise

NEW!

KORFUND LEV-ELASTO DAMPERS

That's right! Since the NEW Korfund LEV-ELASTO Dampers don't require bolting to the floor, you now can give your machinery the *added plus* of mobility and maneuverability.

Change your lines to best handle each production run easily and without the annoyance and potential damage to work and facilities caused by transmitted vibration.

And, you can throw away your shims, too—LEV-ELASTO Dampers eliminate the need for them. A wrench is the only leveling tool you need.

Find out more about Korfund's new LEV-ELASTO Dampers. Write today for your copy of Bulletin 24.

THE KORFUND CO., INC.
48-35P Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

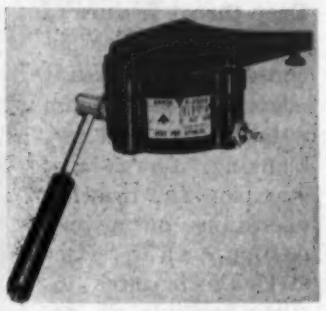
For more details circle NED-605 K5 on enclosed inquiry slip

WOOD WEAVING MACHINE forms wood strip into fabric

Weaving of small-stick wood fabrics continuously is function of this Equi-Tension loom. Attractive woven-slat fabrics of any wood have both strength and flexibility. They are usable for drapes, shades, screens, folding wood doors and similar products. Production rate of loom approaches 1000 running feet per man per day. Each spool of warp runs out over 3 miles before changeover. Because the tension in every string is identical throughout the width, the fabric is absolutely flat, and spiraling of material is nonexistent. Made by **Woodcrest, Inc.**, Box 675, Bellevue, Wash.

For more details circle NED-606 K5 on enclosed inquiry slip

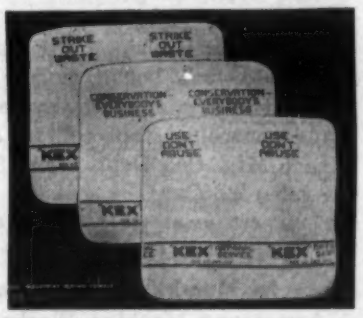
AIR VELOCITY METER 0 to 2500 fpm range



Air scoop inlet of the Florite velocity meter fits both circular and square ceiling air diffusers. Readings are obtained by holding the open end of the scoop against the diffuser outlet. Range of the instrument is 0 to 2500 fpm. Made by **Bacharach Industrial Instrument Co.**, 7303 Penn Ave., Pittsburgh 8, Pa.

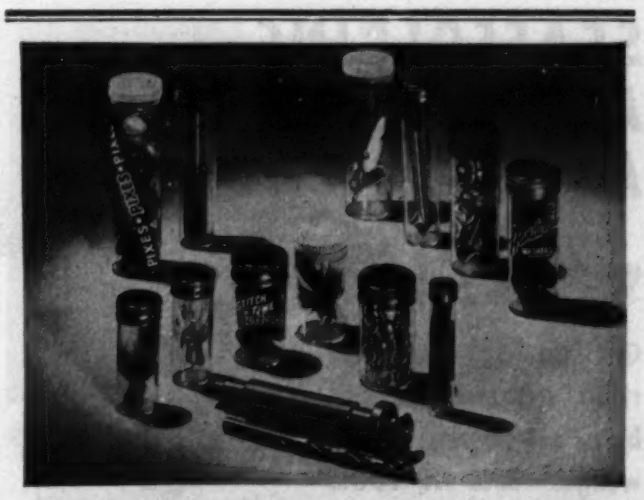
For more details circle NED-607 K5 on enclosed inquiry slip

PLANT CONSERVATION PROGRAM offers posters, towels with slogans



The "Kex" Conservation Program being offered free to industry is designed to assist plants as well as machine shops and service stations to increase the efficiency of their operation by reducing waste. Service is intended as a guide to the proper use of supplies, tools and materials. Program provides free posters soliciting cooperation of employees and includes Kex towels or industrial wiping cloths printed with such slogans as "Conservation Everybody's Business," "Use—Don't Abuse" and "Strike Out Waste." Write **Callaway Mills, Inc.**, Advertising Dept. NED-1, 295 Fifth Ave., New York 16, N. Y.

For more details circle NED-608 K5 on enclosed inquiry slip



LERMER PLASTIC CONTAINERS Help You Make Satisfied Customers

Package your products in Lermer Plastic durable, handsome containers. They are shatterproof, 75% lighter than glass, available clear or opaque in many colors, can be printed or decorated and are available with metal or plastic closures. Write for complete catalog information and samples. If possible, send along products for particular suggestions.

LERMER PLASTICS, INC.
Pioneers and Specialists in Plastic Containers
514 South Ave., Garwood, New Jersey

For more details circle NED-609 K5 on enclosed inquiry slip

HERE'S WHY

PREST-O-WELD Trade-Mark

BLOWPIPES COST SO LITTLE TO USE AND MAINTAIN

SELF-SEATING VALVES
Reseat scored valves when turned tight.

RUGGED HANDLE ASSEMBLY
Built for long, trouble-free service.

SLIP-FIT "O" RINGS
Perfect gas seals every time.

MIXER IN EACH HEAD
Resists backfires, eliminates burnouts.

SWAGED, PURE COPPER TIPS
Heads snap in handle. No wrench needed.

The PREST-O-WELD W-122 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y.

get it from your LINDE jobber

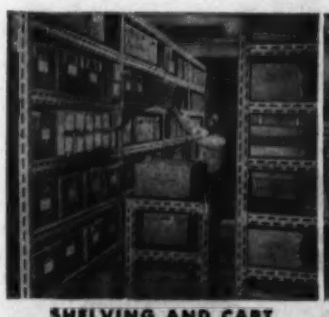
The terms "Linde" and "Prest-O-Weld" are registered trade-marks of Union Carbide and Carbon Corporation.

For more details circle NED-610 K5 on enclosed inquiry slip

frame it with DEXION!

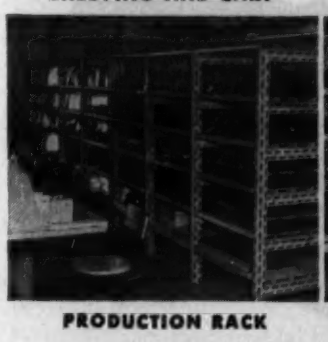
New DO-IT-YOURSELF framing material has scores of applications

Anyone in your plant who can handle a wrench and a saw (or Dexion Cutter) can build with this precision-made, galvanized steel angle. And DEXION is so easy to use or re-use! There's no drilling—no welding—no waste. DEXION is strong and rigid—lasts a lifetime—and the price is amazingly low.



SHELVING AND CART

SHIPPING TABLE



PRODUCTION RACK

STORAGE RACK

Here's why you'll want DEXION Slotted Angle over any other framing material

1. Simple to connect.
2. Easy to cut.
3. Strong and rigid.
4. Re-usable.
5. Easy to measure.
6. Easy to store.

DEXION is a packaged product, ten pieces to a package, each piece 10 feet long. Three types, with dimensions of 3" x 1½" x .080"; 3" x 1½" x .104"; 2¼" x 1½" x .080".

GET THE EXCITING NEW DEXION IDEA BROCHURE,

which gives you full information—and shows what scores of manufacturers are building with this amazing framing material. Write direct to the address shown below.

DEXION DIVISION
ACME STEEL COMPANY
Dept. 10F, 2840 Archer Avenue, Chicago 8, Illinois

For more details circle NED-611 K5 on enclosed inquiry slip

CONNEAUT plastic EXTRUSIONS

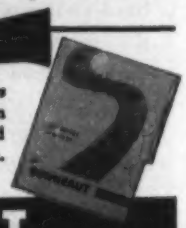
Meet Difficult Design Specifications

Consult Our Engineers On Your Plastic Parts Requirements

Conneaut Rubber & Plastic Company has the experience, technical staff and complete production facilities to give you fast, economical "package" service on plastics compounding and extruding to meet your requirements.

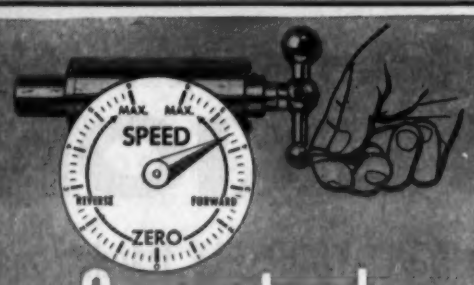
GET THIS FREE BULLETIN

Contains complete details on Conneaut's *custom* plastics compounding and extruding, free on request, or send your prints for quotation and your problem for analysis and recommendation. No obligation, of course. 481-D



CONNEAUT RUBBER & PLASTIC COMPANY
Conneaut, Ohio

▲ For more details circle NED-612 K5 on enclosed inquiry slip ▲



Guaranteed GREATER ACCURACY than any other Variable Speed Drive

GET Graham variable speed drives

- **ULTIMATE in SIMPLICITY and COMPACTNESS**—only the Graham is a straight line extension of a standard induction motor—or available without motor.
- **UNLIMITED SPEED RANGE**—from any desired maximum speed to zero, including reverse if wanted without stopping motor.
- **UNMATCHED ACCURACY**—of speed setting and resetting and speed holding.
- **NO PERISHABLE PARTS**—such as belts or tubes, requiring periodic replacement.
- **PROVED PERFORMANCE**—Fifteen years satisfactory use as standard equipment.
- **LOW COST**—a better job for less money.

GRAHAM TRANSMISSIONS, INC.
Dept. NED, Menomonee Falls, Wis.

GET Graham most reliable variable speed drive made

ENGINEERED and RATED for 'ROUND the CLOCK SERVICE

▲ For more details circle NED-613 K5 on enclosed inquiry slip ▲

ALUMINUM JACKETING weatherproofs outdoor insulation

Easily handled and installed, Lap-Seal aluminum jacketing for weather-proofing all types of outdoor insulation is installed by strapping or fastening with screws. Seal consists of a series of eight ribs rolled into the underlapping edge of the jacketing. The 2-in. ribbed edge eliminates measuring for circumferential lap. Jacketing is easily removed and reused when lines are moved or inspected. Made by **Childers Mfg. Co.**, Dept. NE, 3620 W. Eleventh St., Houston 8, Tex.

▲ For more details circle NED-614 K5 on enclosed inquiry slip ▲

DEEP-THROAT PRESS 7½-ton unit sold as bench model

Deep throat feature of model 7R 7½-ton inclinable press makes it adaptable to medium weight punching, blanking, forming, stamping and drawing operations on a production basis. Construction features include multiple rib design of frame, one-piece alloy steel crankshaft with 1½-in. standard stroke, double roller bearings carrying flywheel and extra long V-type ram guides. Ram hole is 1 9/16 in. diameter by 2⅛ in. deep. Ram area front to back and left to right is 11¼ x 16¼ in. Throat depth is 12¾ in. Sold as a bench model, press can be furnished with floor legs at slight extra cost. Single or double hand control or foot control are available. Made by **Kenco Mfg. Co.**, Dept. NED, 5211 Telegraph Rd., Los Angeles 22, Calif.

▲ For more details circle NED-615 K5 on enclosed inquiry slip ▲

How to Humidify Small Rooms

Armstrong Machine Works—Capable of providing up to 60 per cent relative humidity in rooms ranging in volume from 12,000 to 90,000 cu ft, the model C-2 automatic steam humidifier can be used in storage, processing, production and office areas. Controllable by humidistat and requiring only steam and electric connections, this device is fully described in bulletin 501.

▲ For more details circle NED-616 K5 on enclosed inquiry slip ▲

SCAFFOLDING AS SIMPLE AS THIS WITH SWISS-LOK

Goes up fast, completely rigid, without x-braces, bolts, set-screws, clamps, wedges—AND NO TOOLS ARE NEEDED!

Erects easily over machinery, around piping, in congested areas, inside or outside any shape structure. As easily dismantled; stores compactly in narrow space. All standard parts will go through a 10" opening. Withstands extremely heavy loading.

Only eight different regular parts,—no small parts for time-killing tinkering. This scaffolding can be erected as fast as the members can be slipped together. Holds planking any spacing, any direction. Economical to erect and dismantle for even those pesky short jobs in difficult places.

For real cost-saving from any angle—labor, time, safety, storage and maintenance—investigate SWISS-LOK utility or permanent scaffolding.

Write for literature and prices, outlining your scaffolding needs.

SWISS FABRICATING, INC.,
2803 Camp Horne Road
Emsworth, Pittsburgh 2, Pa.
WEllington 1-2646

▲ For more details circle NED-617 K5 on enclosed inquiry slip ▲

FREE BULLETIN tells you why it pays to do business with Brainard. Write today for bulletin or call your near-by Brainard representative for on-the-job demonstration.

Brainard SHARONSTEEL
STEEL DIVISION SHARON STEEL CORPORATION

BRAINARD STEEL DIVISION
of the Sharon Steel Corporation
DEPT. Y-10
GRISWOLD STREET, WARREN, OHIO

▲ For more details circle NED-618 K5 on enclosed inquiry slip ▲

LABORATORY or SHOP FURNACE

- Complete "Package"
- Ready-to-use
- Space-saving

PERECO Electric FURNACES

Model CB-55

2500° F. for normal use (up to 2750° F. maximum)

Here's a series of Pereco Electric Furnaces that constantly grows in popularity. The CB-55 (illustrated) is suited to a wide range of temperatures for tasks requiring close control and great flexibility for efficient handling of most heat treating requirements in the laboratory or shop.

Ready to use after simple connection to power source. Chamber 12" d. x 8¾" w. x 6" h. Silicon carbide elements. All controls on front panel; automatic temperature indicator-controller; current input meter; 36-tap auto-transformer with switch interlock; circuit breaker safety cut-off switch; and warning pilot-light. 230-v., 60-cyc., 1 or 3 ph. AC, with variable control from 3.5 to max. 11 kw.

PERENY EQUIPMENT COMPANY COLUMBUS OHIO

Write Today For Full Details

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio
Export Office: Bessemer Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-619 K5 on enclosed inquiry slip ▲

molded *Black Nylon* screws and nuts

Insulate and Fasten without bushings, washers, etc. In Stock 6-32, 8-32, 10-32.

Black Nylon "NyGrip" cable clips

Light-weight non-conducting support for wiring, tubing, etc. In Stock 1/16" to 1½" Dia.

Free samples • write **WECKESSER CO.**
5251 N. Avondale Ave. • Chicago 30, Ill.

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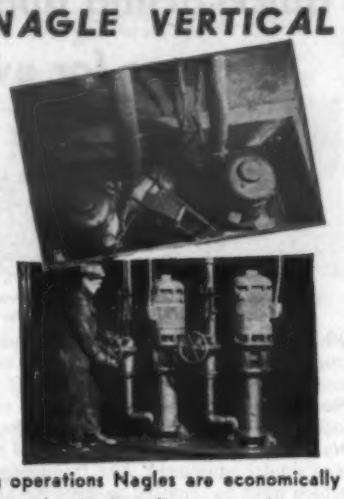
GOOD HOUSEKEEPING AT CLIMAX MOLYBDENUM MADE POSSIBLE BY NAGLE VERTICAL SHAFT PUMPS



CLIMAX Molybdenum Co., Climax, Colo., is just the kind of mining operation for which Nagle Centrifugal Pumps were tailor-made. Climax has 18 Nagle Vertical Shaft Pumps on the Job—type "SW-OB" and type "QW"—for sump service, drainage and slurry handling.

ALL Nagle Pumps are designed for abusive service—for the gritty, grueling, punishing jobs. At many mining operations Nagles are economically handling mixtures of coarse materials, slurries, slimes, etc., in many types of applications. No stuffing box or bearing troubles, no leakage. Absolute minimum of maintenance. Get the complete story—send for Catalog 5206.

NAGLE PUMPS

NAGLE PUMPS, INC.
1265 CENTER AVE., CHICAGO HEIGHTS, ILL.

PUMPS FOR ABRASIVE AND CORROSIVE APPLICATIONS

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Your PORTABLE POWER PACKAGE

for mixing liquids up to 4,000 centipoises

PATTERSON TYPHOON MIXERS

Lightweight and sturdy, for continuous heavy duty! Specify Typhoon for your batch-to-batch mixing jobs; direct or geared drive; stainless steel shafts and propellers; high quality at moderate price. Write!

The Patterson Foundry and Machine Company
East Liverpool, Ohio, U. S. A.
NEW YORK, BOSTON, BALTIMORE, PHILADELPHIA, PITTSBURGH, DETROIT, CINCINNATI, ATLANTA, CHICAGO, ST. LOUIS, HOUSTON, DENVER, LOS ANGELES, SAN FRANCISCO, SEATTLE
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada
MONTREAL

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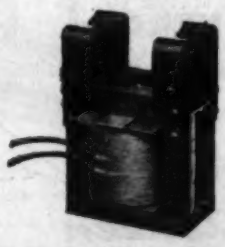
SOLENOIDS

G-211 solenoid, 10 lbs. at 85% voltage, 1½" stroke.



NA-726 solenoid; 16 lbs. at 1" stroke, 100% voltage.

G-200 line of solenoids, replacement for General Electric solenoids: G-206 to G-213 both inclusive, push and pull.

NA-700 line of solenoids, replacement for National Acme solenoids, size for size, for all modifications.

The solenoids of both the above replacement lines are all thoroughbred Trombetta solenoids. All dimensions of interest to the user are the same as the respective solenoids they replace. The pull and pull characteristics are identical. In either case, we are in a position to furnish replacement units for any and all modifications. They are available for all voltages and frequencies, including direct current.

See our catalogs in Sweet's Catalog Service. Ask for more information.

TROMBETTA SOLENOID CORP.
329 N. MILWAUKEE STREET • MILWAUKEE 2, WISCONSIN

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ABRASIVE BELT GRINDER has high volume on flat surfaces

This model 680 semiautomatic multiple-head abrasive belt grinder is designed for wet or dry grinding and polishing of ferrous, nonferrous, plastic and other materials. It is especially applicable to grinding and deburring flat surfaces on high volume basis. Maximum piece capacity is 4 in. high, 6 in. wide and any practical length. The 6 x 80-in. belt travels at 5500 sfpm. Speed of 7 x 144-in. conveyor belt can be set for 5 to 30 fpm speed. Made by **Engelberg-Huller Co.**, 831 W. Fayette St., Syracuse, N. Y.

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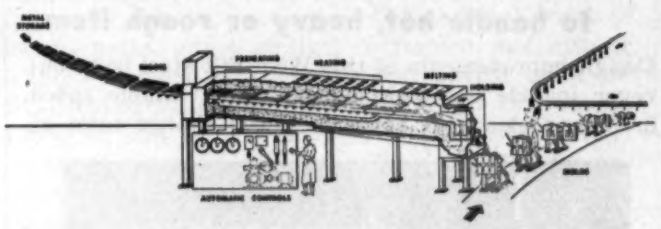
CONTINUOUS-MELT FURNACE designed for aluminum alloy casting

Castings of reproducibly uniform analysis are derived from continuous melting of aluminum in this radiant gas-fired tunnel furnace. Units can be designed to



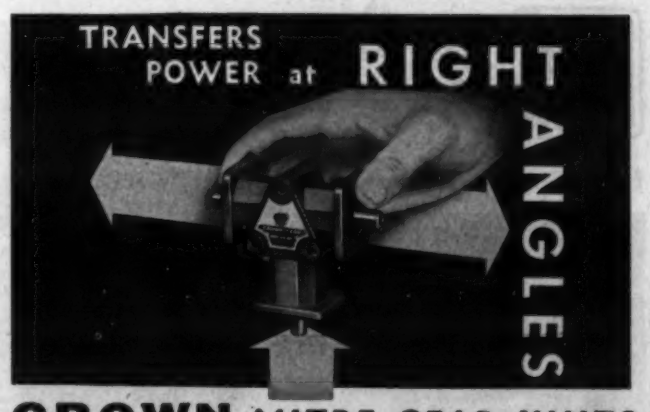
produce from 300 to 3000 lb of molten metal per hour. The start-up charge can be brought to pouring temperature in less than 3 hours. Gas consumption is 1.9 cu ft per lb of aluminum melted. Ingots are loaded at the upper end and automatically pushed lengthwise under a roof of Selas radiant burners. Melting rate and pouring temperature are controlled by regulating the speed of ingots through the furnace and fuel input to the burners. Molten aluminum flows continuously from the lower end of the furnace into a pouring ladle. Cycle from cold ingot to liquid is 24 to 30 minutes. Made by **Selas Corp. of America**, D St. & Erie Ave., Philadelphia 34, Pa.

▲ For more details circle NED-625 K5 on enclosed inquiry slip ▲

Temperature Instruments

Fischer & Porter Co.—A complete line of filled thermal systems for indicating, recording, controlling, transmitting, compensating and programming temperatures from −400 to 1000°F are shown and described in "Temperature Instruments" catalog No. 12-A-10.

▲ For more details circle NED-626 K5 on enclosed inquiry slip ▲



CROWN MITRE GEAR UNITS

...are an ideal solution to all types of right angle needs, and are especially adaptable to confined areas. They're small, rugged, quiet, and precision made. Crown Gear Units have matched "Zerol" hardened gears which are mounted in double shielded ball bearings, and completely enclosed. Re-lubrication, if necessary, is easily accomplished, and four or five mounting flanges provide easy installation.

Special models will be engineered and quotations submitted for any specific problems. Write today for the name of your local distributor. Crown Gear Units are available almost everywhere. Write for engineering details.

CROWN GEAR
a division of Harrington & Richardson, Inc.
329 PARK AVENUE, WORCESTER 10, MASS.

Over 120 leading distributors in 43 States

Sold in Canada by H. & R. Arms Co., Ltd., Montreal 23, P. Q.

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a full line of PRECISION STAMPED GEARS

SHAKEPROOF® STAMPED GEARS

FREE!

Write today for this comprehensive catalog. Contains the full line of Shakeproof Precision Stamped Gears . . . plus useful tips on their use and application.

SHAKEPROOF
"Fastening Headquarters"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

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Three engineers who have made the transition to Aircraft Design through Lockheed's Training Program: E. A. Phelps (top) was a Structural Steel Engineer in Denver, Colorado; H. G. Hauser (center) was a Test Equipment Design Engineer in Grand Rapids, Michigan; R. W. Tetamore was a Mechanical Engineer in Rochester, N.Y.

"Me...an Aircraft Design Engineer?"

Yes, Lockheed in California trains you—at full pay

Engineers find the step up to Aircraft Design an interesting, rewarding experience in Lockheed's Training Program for Design Engineers. It's a program adapted to the individual.

Aircraft engineering experience is not necessary to qualify. Lockheed is interested in your knowledge of engineering principles, your aptitude, your experience in other engineering fields.

When necessary you attend Lockheed engineering classes. You engage in on-the-job training.

Your program may take three weeks – or three months. It depends on your experience and assignment.

After the Training Program is completed you join the most diversified Design effort in the history of Lockheed.

46 major projects are in motion – including turbo-prop and turbo-jet transports, vertical rising aircraft, jet trainers, extremely high-speed fighters, bombers, nuclear applications to aircraft.

This diversification means more scope for your ability; more opportunity for promotion; more job security.

Now in effect: Increased salary rates; increased overtime scales; increased employee benefits; a travel and moving expense program that enables you and your family to move to Lockheed in California at virtually no expense or trouble.

You are invited to write for more information on Lockheed's Training Program for Design Engineers. Address: Dept. DE-20-10 E. W. Des Lauriers, Design Engineer Training Program, Lockheed Aircraft Corporation, Burbank, California.

Lockheed AIRCRAFT CORPORATION
CALIFORNIA DIVISION, BURBANK California

▲ For more details circle NED-629 K5 on enclosed inquiry slip ▲

The Only Air Cylinder

WITH ALL CONTROLS BUILT-IN

This air cylinder is a complete, "packaged" power unit. Electrical switching controls (1), four-way directional valve (2), and independent speed control valves (3), are all a built-in part of the unit. Only one air connection required yet unit is full double-acting. So revolutionary in design it is known as the Bellows Air Motor. Available in five bore sizes: 1¼", 1¾", 2½", 3⅜" and 4½". Virtually any stroke length. Optional choice of mechanical built-in valve controls.

Write for this Free Booklet

Bulletin ML-3 describes the complete line of Bellows "Controlled-Air-Power" Devices. Write Dept. NED-1055.

The Bellows Co.
AKRON 9, OHIO

In Canada: Bellows Pneumatic Devices of Canada, Ltd., 4972 Dundas St. W., Toronto, Ontario.

909A

▲ For more details circle NED-630 K5 on enclosed inquiry slip ▲

7 ways to cut costs with Edmont job-fitted gloves

Werx No. 151 . . . 2 styles

REPLACE CANVAS AND GOATSKIN — Modern plastic-impregnated material outwears canvas 4 to 1, costs far less than goatskin, has excellent grip at all times, and allows full finger freedom. Material lets hands breathe comfortably. Washable.

Snorkel No. 404 . . . 3 styles

SUPER-FLEXIBLE COATED GLOVES—New ease for faster work handling. Perfect fitting pattern has wing thumb, pre-flexed curved fingers and seamless working area. Made with easy-stretch jersey liner and non-slip finished vinyl palm coating or over-all liquid-proof coating.

Grab-It No. 62W . . . 11 styles

SAFEST GRIPPING WORK GLOVES — Wet or dry, the rough textured natural rubber coating gives positive non-slip grip. Highly cut resistant, outwears canvas up to 10 times.

Neox No. 922 . . . 8 styles

MORE FLEXIBLE NEOPRENE COATED — Edmont has increased the flexibility of Neox (reinforced neoprene) coated gloves, long preferred for all-purpose protection against cutting, abrasion, oil, grease, chemicals and heat.

Redmont No. 938 . . . 6 styles

HEAVY DUTY NEOPRENE PROTECTION—30% thicker coating of red Neox with cured-in non-slip finish. Grips wet or dry. Recommended for maximum protection and long wear under severe conditions.

Grappler No. 363 . . . 5 styles

REINFORCED PLASTIC GLOVES THAT GRIP IN GREASE — Edmont's "Durox" coating retains its grip when wet. Outwears plastics by 50% or more. Note hand-fitting pattern, exclusively Edmont.

Monkey Grip No. 31 . . . 13 styles

JOB-FITTED PLASTIC COATED GLOVES — Edmont's seamless palm, wing thumb, curved pre-flexed fingers and perfect fit, coated with special vinyl. **Includes triple-thick palm styles which are world's longest wearing work gloves.**

FREE TEST OFFER: Tell us your operations, materials handled and temperature condition. We will recommend correctly job-fitted gloves and forward samples without cost for on-the-job testing.

EDMONT MANUFACTURING COMPANY
1240 Walnut St., Coshocton, Ohio
World's largest maker of coated industrial gloves

Edmont

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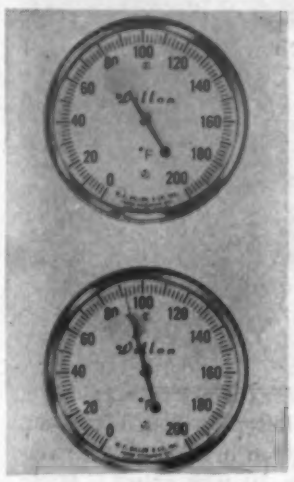
BIMETALLIC THERMOMETER has warning signal indicator

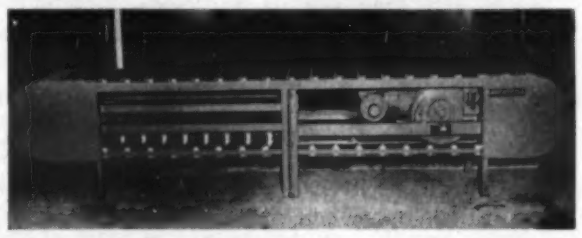


Visible at distances up to 50 ft, Signal Eye of line of bimetallic thermometers provides a vivid warning when temperatures fluctuate from a preset normal. A bright red disk is attached to the dial thermometer pointer. An opaque disk of the same diameter is affixed to the dial glass over the spot where it exactly coincides with the red disk. Any deviation of temperature exposes the red signal to the observer. These thermometers are available in 3 or 5-in. diameter dial sizes, with stem lengths from 2½ to 72 in. and ranges from −40 to 160° F up to 200 to 1000° F. Centigrade ranges are −10 to 110° up to 0 to 300°. Made by **W. C. Dillon & Co.**, Dept. NED, 14620 Keswick St., Van Nuys, Calif.

▲ For more details circle NED-632 K5 on enclosed inquiry slip ▲

VARIABLE SPEED CONVEYOR uses hinged steel belt construction to handle hot, heavy or rough items

Design improvements of this Weld-Bilt steel belt conveyor include new belt construction, variable speed drive and electronic controls. Speed change ratio of



3 to 1 is obtained with variable speed pulleys which adjust automatically by moving the motor on a sliding base. Speed up to 100 fpm can be obtained. Conveyors are made of cold-finished steel sections, continuously hinged with bolt pins, and can be furnished in practically any length and in widths up to 60 in. Belt rides on ball bearing rollers, and loads up to 300 lb per sq ft can be handled.

Conveyors can be designed to move materials horizontally or at an angle for floor-to-floor materials handling. Drive section, usually about 5 ft long, is equipped with a high-torque gearhead motor with gears operating in oil bath. Ball bearing pillow blocks support the drive and idler shaft. Adjustable sprocket take-ups maintain proper belt tension. Made by **West Bend Equipment Corp.**, 329 Water St., West Bend, Wis.

▲ For more details circle NED-633 K5 on enclosed inquiry slip ▲

BARBER COLMAN

Barcolo
Door Operators
for swinging, sliding or overhead doors

Always a timesaver, often a heat-saver too! Barcol door operators keep traffic moving, keep costs down. A range of types and models fit all sizes of swinging or sliding doors and sliding gates. Available with electric switches or radio control which truck operators can actuate while in motion. Your Barcol distributor sells, installs, guarantees, and services—look under "Doors" in phone book.

BARBER-COLMAN COMPANY, DEPT. 5510, ROCKFORD, ILLINOIS

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NOW . . . You can get a quick-acting quarter-turn Lion Fastener for every need!

Lion Hi-Strength with high shear load — *Lion No. 5 made to 1" center* — *Lion No. 2 made to ¾" center*

Hi-Strength fastener—takes shear loads up to 4700 lbs. Designed for rugged applications requiring great fastener strength. Takes up no more room than a No. 5 fastener.

No. 5 fastener—recommended for use on panels and inspection doors where long life must be combined with easy access.

No. 2 fastener—used mostly on small panels for electronic telephone and similar equipment. Also frequently used to hold small assemblies which must be removed as units for inspection or service.

Head styles—oval, flush, knurled, notched, ring, wing or to your design specifications.

Delivery—the day you specify. We ship standard units from our stock of one million. Fast handling for custom designs.

Free Lion Demonstrator Kit—Will send size and type of fastener you require. Write today on your letterhead.

LION *Quarter-turn* **FASTENERS**
one of the SOUTHCO FASTENERS

Southco Division
South Chester Corp
243 Industrial Highway
Lester, Pa.

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for SPEED ECONOMY & QUALITY

LESTO

GUSTO ORBITAL SANDER

High efficiency on flat or curved surfaces . . . vertical or horizontal . . . even tight spots right to edges. No belts or gears. Reliable, durable sander for wood, metal, plastics, plaster, paint, etc. Largest sanding pad of any hand sander. Exclusive safety hard rubber handle withstands shocks up to 1000 volts.

LESTO *Electric* HAND SAW

Swiss watch precision in a heavy-duty portable hand-saw! That's the secret of LESTO cutting speed and accuracy. 2300 strokes per minute cut so fine sanding is unnecessary. A true all-in-one saw: rip, scroll, band, jig, cross-cut, coping, keyhole—cuts inside holes without a starting hole . . . cuts 2" wood beams . . . soft metals, plastics, cement sheet, etc.

LESTO *Electric* SHEARS

For all sheet-metal work up to 16 gauge. Compact design, handy shape. Perfect for hard-to-reach places. Cutting speed 5 ft./min. Weight 3¼ lbs. Larger model cuts up to 12 gauge. Weight 6½ lbs.

Write for Literature
Sold and Serviced in Principal Cities Throughout U.S.A.
VICTOR J. KRIEG, Inc.
Exclusive Importer
611 Broadway, New York 12, N. Y.
GRamercy 7-5757

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REMOTE *Cylinder* CONTROL

with *Ledeen* POWER operated VALVES

Hand Valves

Foot Valves

Instant action of remotely located or automatically operated cylinders is made possible with the new and improved Ledeen Power Operated Valves. These disc-type valves are positive in operation, and are readily adaptable to a wide variety of pilot controls. Solenoid operated power valves are available as complete package units.

Ledeen Power Operated Valves are fast cycling, have few moving parts, and require very little maintenance. They are available from stock for quick delivery.

Write for Bulletin 1010.

VALVES • CYLINDERS
AIR-HYDRAULIC
PUMPS & BOOSTERS
VALVE ACTUATORS
AIR HOISTS

Ledeen Mfg. Co.
1604 So. San Pedro St.
Los Angeles 15, Cal.

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HOW YOU SAVE . . .
Getting Drier Compressed Air

• You get lower costs and fewer troubles in the use of all air-operated machines, in paint spraying, in air cleaning or sand blasting, and lower maintenance and repair costs for all pneumatic tools.

The NIAGARA AERO AFTER COOLER assures these benefits because it cools compressed air or gas below the temperature of the surrounding atmosphere so there can be no further condensation in air lines.

Direct saving of cooling water saves you the price of the Niagara Aero After Cooler in less than two years.

Write for Bulletin No. 98

NIAGARA BLOWER COMPANY
Dept. ED, 405 Lexington Ave., New York 17, N. Y.

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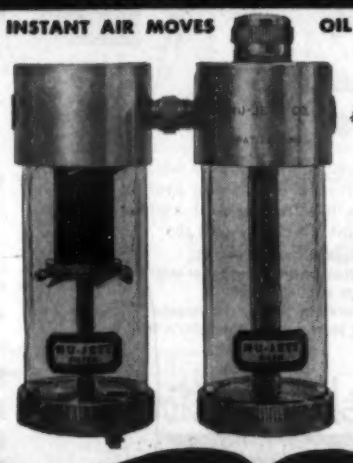
NEWEST NU-JETT FILTER LUBRICATOR

THE INSTANT AIR MOVES OIL MOVES WITH IT!



$19.50 AS SHOWN FOR 1/4" & 3/8" PIPE SIZES

Especially designed for air operated equipment having cycling or intermittent action. Improves air cylinder performance. Efficient over wide range of pressures and volume. Write for complete details. OEM inquiries invited.

NU-JETT PRODUCTS CORP.
1355 MICHIGAN ST., N. E.
GRAND RAPIDS, MICHIGAN

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PORTABLE ELECTRIC DRILL
is high-torque 1/4-in. model

Weighing only 3¼ lb, this No. 236 Mighty Midget portable electric drill develops 1500 rpm at the chuck. This ¼-in. capacity tool is compact and easy to use in close quarters. It has balanced design, pistol-grip handle with lockable trigger switch, die cast aluminum housing, three-jaw geared chuck with key, and concealed but accessible brushes. Made by **Stanley Works**, Stanley Electric Tools Div., 104 Elm St., New Britain, Conn.

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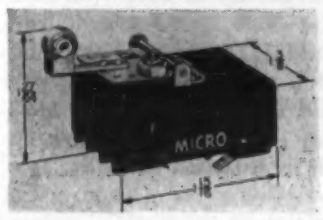
SINGLE-ACTUATED DUAL SWITCH
shifts two circuits at same time



Consisting of two basic switching units operated by single roller-lever actuator, the 6AS13 low-force, double-pole switch can shift two isolated circuits at same time. Operating point of one unit is field adjustable to provide either simultaneous actuation or a definite sequence of operation. Variety of lever lengths, either straight or formed, and with or without a roller is offered. Basic switch units are UL-listed at 15 amp at 125, 250 or 460 v ac; ½-amp, 125 v dc; and ¼ amp at 250 v dc. Higher electrical capacity units can be used. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

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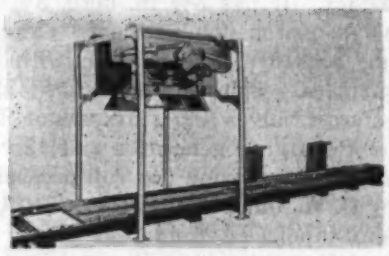
AUTOMATIC LOADING STATION
is hydraulically controlled



Efficient means for handling coal during one phase of its transportation is provided by this automatic loading station. It has hydraulically operated fly gate and hopper, and either an hydraulically actuated yoyo clutch or electrical interlocks are used when chain and flight conveyors are being reversed. The full hydraulic control is interlocked with a Nolan NCN Porta-Feeder. Controlled loading of cars is accomplished with a loading bar. This protects against over-filling either the unit being loaded or the on-coming empty. Made by **Nolan Co.**, 128 Pennsylvania St., Bowerston, O.

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"We eliminated Motor Burnouts and cut new installation costs - by using Fusetron Fuses"

"We service some 43 Alfalfa Mills in central Nebraska.

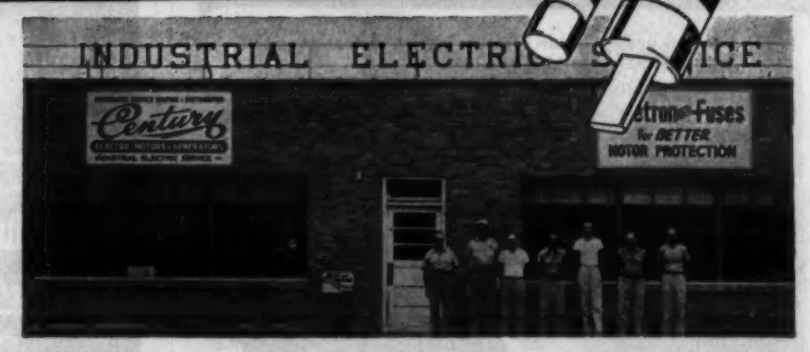
"From experience, we know that overloads and single phasing are common causes for motor failures in these mills.

"To protect these motors, we use Fusetron fuses in motor-running protection sizes. As a result, we have eliminated motor burnouts for our customers.

"In addition, on new installations, we have found that smaller switches can be used with proper size Fusetron fuses.

"We pass this substantial saving along to our customers and still give them safer protection than can be had with ordinary protective devices."

Max T. Moore, Vice-President
Industrial Electric Service, Inc.
Kearney, Nebraska



You too, can save time and money by using Fusetron fuses. They eliminate down-time caused by needless blows — they are maintenance free, hence, no recalibration or periodic inspection costs — and they reduce the expense and hazard of motor burnouts and equipment damage due to electrical faults. —*Write for bulletin FIS* —

FOR LOADS ABOVE 600 AND UP TO 5000 AMPS. USE BUSS Hi-Cap FUSES!
On 600 volts or less, they have unlimited interrupting capacity. When coordinated with Fusetron fuses they will not open ahead of the fuse nearest fault . . . Write for bulletin HSC.

PLAY SAFE! Install FUSETRON and BUSS Hi-Cap FUSES IN THE ENTIRE ELECTRICAL SYSTEM!

BUSSMANN MFG. CO. (Div. of McGraw Electric Co.) University at Jefferson, St. Louis 7, Mo.

▲ For more details circle NED-640 K5 on enclosed inquiry slip ▲

★ Heavy gray iron casting, accurately machined surfaces.
★ Power factor—15 times air line pressure of 5 to 150 lbs.
★ Throat clearance to center of 10" diam. circle.
★ Ram clearance 0 to 5", stroke 5/8", table 5" x 5".

This useful, high quality No. 80 SPEEDY AIR PRESS is the last word in air power engineering—the result of 34 years of specialization in diaphragm compression. Extremely sturdy, it does dozens of jobs formerly handled by expensive presses—and does them more quickly, easily and economically. Operated by Speedy Foot Control, Hand, or Fingertip Valves. Order from your supplier or write direct.

Write for New Catalog of Speedy Air Tools and Accessories
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • CONTROLS

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COSTS LESS
to operate and maintain. Minimum power requirements, simple efficient drive. Only one lubrication point.

MORE EFFICIENT
for conveying granular, pulverized or lump materials. Ideal for scalping, cooling or de-watering operations.

WITH
STEPHENS-ADAMSON
natural frequency
VIBRATING
CONVEYORS

S-A Natural Frequency Vibrating Conveyors are carefully designed to take full advantage of the powerful force of natural frequency. Power from the conveyor drive is regenerated through low-stress coil springs to return energy to the conveyor trough . . . thus input power requirements are held to a minimum, efficiency to a maximum.

Write for technical data or specific information as to how natural frequency conveying can be best used in your plant.

SINCE 1901 S-A STEPHENS-ADAMSON MFG. CO.

STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVE. • AURORA, ILLINOIS
Factories at: Los Angeles and Belleville, Ont., Canada

ENGINEERING DIVISION . . . Specialists in design and manufacture of all types of conveying systems.

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SQUEEZE
aisles to 5'3"

The Lewis-Shepard Electric JackStacker is best for narrow aisles. Here's why:

It's Extra Short . . . lets you stack 40" long, 4,000 lb. loads to heights of 130" in aisles only 63" wide.

More Maneuverable, too . . . all controls, including brake, are in handlehead permitting operation with handle in any position.

Much More Stable . . . large stabilizing casters on load carrying frame assure maximum stability when high stacking. Get all the facts. Send for catalogs.

LEWIS-SHEPARD®

1710 WALNUT ST., WATERTOWN 72, MASS.

The Master Line

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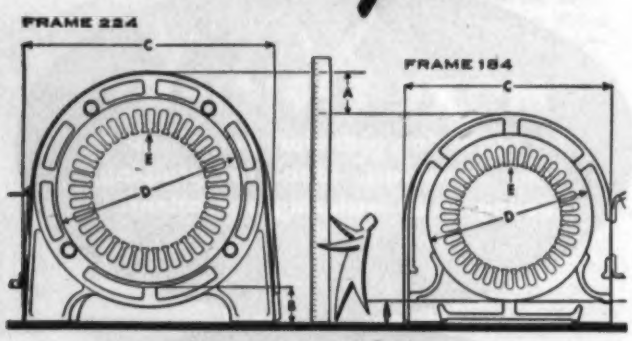
THE NEW U.S. UNICLOSED MOTOR saves 46% in space*



* EXAMPLE—
2 h.p., 4-pole
Previous 224 Frame—1663 cu. in.
New 184 Frame—891 cu. in.
SAVING—772 cu. in. or 46%

COMPARISON

A—Over-all height reduced
B—Stator closer to mounting surface
C—Over-all width reduced
D—Approx. same punching O. D.
E—Same number of slots

More Horsepower per cubic inch

Saving in space of 46% for the 2 h.p. size, in comparison with previous NEMA dimensions, is typical of the ratings in the new U. S. Type H Uniclosed motor. Improvement of insulation, advanced electrical design, closer tolerances, all contribute to development of maximum horsepower within the least cubical space. Many other exclusive U. S. features, such as asbestos-protected windings, Lubriflush transverse lubrication, solid cast-iron frame and normalized castings, also add longer life and more efficient power.

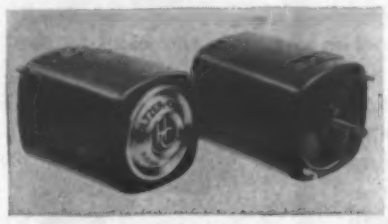
◀ *Mail Coupon for informative full-color 12-page Type H Bulletin*

U. S. ELECTRICAL MOTORS, INC. NED-10
P.O. Box 2058, Los Angeles 54, Calif., or
Milford, Conn. Send Type H Bulletin No. F-1856

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle NED-647 K5 on enclosed inquiry slip ▲

SUBFRACTIONAL HP MOTORS range from 1/50 to 1/200-hp in induction and synchronous types

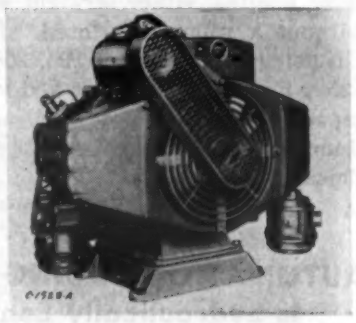


Possessing efficiencies of over 30 per cent, these subfractional horsepower motors with 3-in. diameter frames have low temperature rise and minimum of heat to be dissipated. They are suited for instrument, recording unit and office machine applications. The synchronous motors have stainless steel shafts, slotted stator with distributed windings, Mylar insulation in stator slots, ball or sleeve bearings and die cast aluminum end caps.

Class is basically of the reluctance type, but rotor is cylindrical with no irregularities or slot openings. Nominal ratings on a conservative basis for continuous duty are 1/100, 1/150 and 1/200-hp at 1800 rpm and 1/60, 1/100 and 1/150-hp at 3600 rpm for synchronous type and 1/50, 1/75 and 1/100-hp at 1700 rpm and 1/50 and 1/60-hp at 3400 rpm in induction type. Made by **National Pneumatic Co.**, Holtzer-Cabot Motor Div., Dept. N, 125 Amory St., Boston 19, Mass.

▲ For more details circle NED-648 K5 on enclosed inquiry slip ▲

AIR-COOLED DIESEL ENGINE is 15-hp 2300-rpm 4-cycle unit



Dependable power for oil field pumping units, air compressors or refrigeration units can be supplied by model DRP 15-hp 2300-rpm 4-cycle diesel engine. Unit is designed for long-running service, is air-cooled and has compression ratio of 17.3:1. It has 3½ in. bore, 3½ in. stroke, and 67.3 cu in. piston displacement. Crankshaft and connecting rods are forged steel, with extra large bearing surfaces. Pistons are Vanasil aluminum alloy, and exhaust valves and seats are of Stellite. A 12-v battery charging generator and 12-v electric starter are standard. Engine has full-pressure lubrication. Made by **D. W. Onan & Sons Inc.**, 2516 University Ave. S.E., Minneapolis 14, Minn.

▲ For more details circle NED-649 K5 on enclosed inquiry slip ▲

Hydraulic Cylinders

Benton Harbor Engineering Works, Inc.—8-page illustrated bulletin "It's Your Best Move" describes typical designs of custom-built hydraulic cylinders that can be used to lift, tilt, lower, eject, reciprocate, swing, turn, clamp, hold or squeeze. Machines and equipment that utilize these specially engineered cylinders are shown.

▲ For more details circle NED-650 K5 on enclosed inquiry slip ▲

Only the MORRIS Type R SLURRY PUMP has these 4 features

1. Gland is under suction pressure only. This feature practically eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No internal studs or bolts . . . no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shell interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to positions in any of four quadrants.

The New Type "R" Morris Slurry Pump handles caustic or acid mixtures containing abrasives or solids; also ore concentrates, tailings, slag, residue from filters and classifiers.

Write for specifications and operation data on pumps best suited to your particular needs. No charge or obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Sales Offices in Principal Cities

MORRIS CENTRIFUGAL PUMPS

▲ For more details circle NED-651 K5 on enclosed inquiry slip ▲

NEW APPLICATOR SPREADS DRAWING COMPOUND AUTOMATICALLY

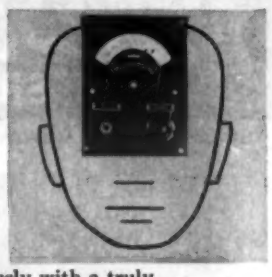
Speeds production, saves 50% on compound, increases die life, reduces scrap loss

THE NEW Lovell compound applicator prepares sheet metal for the drawing press by automatically applying compound to the blanks. It speeds production — no more hand brushing or dunking. No extra help is needed. Because it distributes compound more evenly, it reduces the amount used, up to 50%. This also reduces die damage, cuts scrap loss. Dies last longer, honing time is reduced.

This machine can easily be moved from one press to another on a roll-a-way table. It plugs into the light circuit. Can be attached to a "level rolling" process. Durable Neoprene rolls operate in either direction. For complete story, write us for booklet No. DA1. Lovell Mfg. Co., Erie, Pennsylvania. *Advt.*

▲ For more details circle NED-652 K5 on enclosed inquiry slip ▲

Fielden TELSTOR "masterminds" level continuously

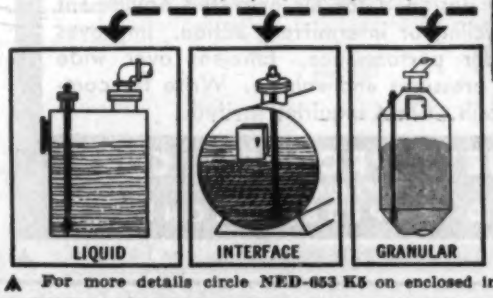


DEPENDABLE
LOW COST

Now you can indicate level continuously with a truly simple, electronic capacitance-measuring system that removes the restrictions, headaches, and high cost of other methods. Look what TELSTOR can do:

- Measures level of liquids, powders, solids
- Measures top to bottom or limited span, or interface
- Indicates remotely or right at vessel
- Unaffected by temperature, pressure or vacuum
- Requires no moving parts . . . only one radio tube

Robertshaw-Fulton CONTROLS COMPANY
FIELDEN INSTRUMENT DIVISION
2920 N. 4th St., Dept. F, Philadelphia 33, Pa.



WRITE FOR FREE BULLETIN

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NEW Industrial LAMPHOLDERS with *Levolier*® Switch Dependability

Whether you prefer universal lever or the new push button control, you can have a Levolier Lampholder that has a proven record of long service in strenuous industrial use. Levolier switch mechanisms are built into both brass and molded Phenolic heavy duty lampholders in a variety of single or two circuit models. All are built to eliminate failures in plant and machine lighting that can mean costly production time losses.

Send for McGILL Catalog No. 49-A

50th Anniversary

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

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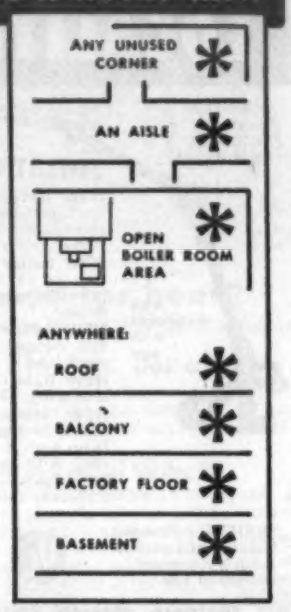
ADD 160 BOILER HORSEPOWER OF ADDITIONAL STEAM

in spare space you'll never miss

- Just moving a desk makes room for a Vapor Modulatic steam generator. Or folding up the watchman's cot. Or any aisle will do. Shipped completely assembled. Needs no special foundation, expensive stack, or separate enclosure. Operation is safe, automatic. Over 10,000 in use—proved on Diesel streamliners since 1932. Seven sizes—18 to 160 hp.



There's Nothing Else Anywhere Like It

VAPOR MODULATIC VERTICAL STEAM GENERATOR

Send for new Bulletin 586

VAPOR HEATING CORPORATION

80 E. Jackson Blvd., Chicago 4, Ill.

In Canada: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3

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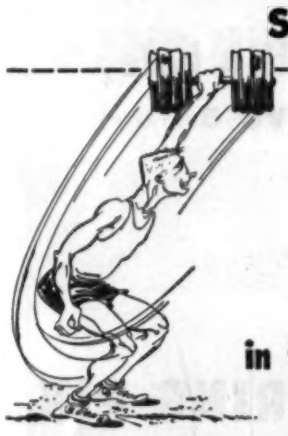
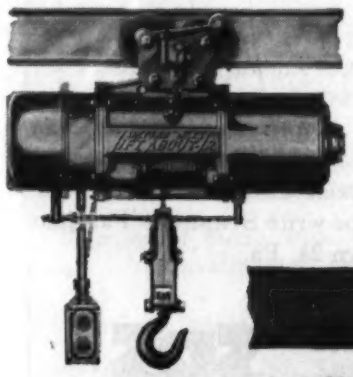
SHEPARD NILES



LIFTING CHAMP

in the electric hoist field



Medium-Service *LIFTABOUT JR.*

Heavy-Duty SHEPARD NILES Hoist

YOU GET A HOIST that will lift your loads year after year when you buy one bearing the Shepard Niles name. Long after you've written it off, your Shepard Niles Hoist will be cutting costs, speeding work in your plant.

Shepard Niles offers you electric hoists of proven quality for cycle duty, heavy intermittent duty, medium duty and light-occasional service. Choice of medium and heavy capacities with slow, medium and fast speeds. Available with short to long lifts, standard or close headroom, manual or magnetic controls.

Send for Bulletin illustrating the complete line of Shepard Niles Hoists . . . request a representative to call. He'll show you why Shepard Niles is your best buy in electric hoists today.

CRANES Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated.

HOISTS Operated from Cab, Floor or Pulpit.

America's Most Complete Line of Cranes and Hoists since 1903

SHEPARD NILES CRANE AND HOIST CORPORATION

1861 Schuyler Ave., Montour Falls, N.Y.

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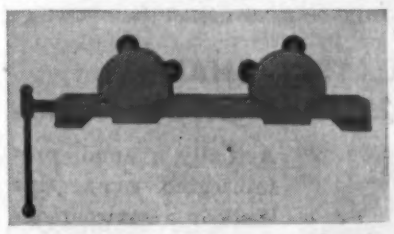
CENTRIFUGAL SOLVENT EXTRACTOR will process up to 500 gpm in petroleum, chemical industry uses

This Chemizon centrifugal countercurrent solvent extractor, designed for petroleum and chemical industry use, will process 500 gpm combined streams of a chemical extraction system having difficult mixing and separating characteristics. Rotor is 42 in. diameter by 42 in. wide and made of type 316 stainless steel. Unit is compact, with extractor and drive unit together only slightly larger than an office desk.

For production applications handling 500 to 1000 gpm, rotor material holdup is only about 200 to 250 gallons. Extractors can be furnished to handle capacities up to 1000 gpm in single machine. Each machine is designed to specific system. Specific uses include furfural and phenol extraction of lube and gas oils; caustic extraction of phenol, cresols and xyols from coal tar fractions; separation of monomer and polymer mixtures by solvent extraction; and extraction of waste sulfite liquors in wood-paper processing. Made by **Podbielniak, Inc.,** Dept. NED, 341 E. Ohio St., Chicago 11, Ill.

▲ For more details circle NED-657 K5 on enclosed inquiry slip ▲

PIPE DOLLY handles pipe sizes through 36 in.



Pipe handling time in fitting of flanges or in welding operations can be reduced up to 85 per cent with use of this combination pipe dolly which affords pipe adjustment over variation of several inches. Using dolly involves setting traveling heads in partially closed position, loading the pipe in the dolly, checking the level and rotating the handle to lower or raise pipe until it is leveled. Rollers permit rotating for either manual or automatic welding. Dolly handles all pipe sizes through 36 in. and has load capacity of 2500 lb. Made by **H & M Pipe Beveling Machine Co.,** 311 E. Third St., Tulsa, Okla.

▲ For more details circle NED-658 K5 on enclosed inquiry slip ▲

Rotary Fabricating Machines

Niagara Machine & Tool Works—24-page illustrated catalog 75-B gives details of an extensive line of hand and power operated rotary machines, rolls and accessories for forming and fabricating sheet metal. Machines described includes types to bead, crimp, seam and form.

▲ For more details circle NED-659 K5 on enclosed inquiry slip ▲

FLOOR to FLOOR CONVEYOR

Easy to Install FOR ECONOMICAL HANDLING of BAGS BOXES TRAYS CARTONS CRATES WORK-PIECES ETC.

Can be used with power or gravity lines. Standard O.A. widths 18"; 22"; 30" — Belt widths 12", 16", 24. Length as required. Top quality 3-ply 28-oz. duck with thick traction rubber-top belt. Reversible direction of travel. Power tail and nose-over available as illustrated.

Write for detailed information and suggestions for application.

PUSH BUTTON CONTROL AVAILABLE

USED — Floor-to-Floor Over Doors Short units as Booster in Gravity line

METZGAR CONVEYOR CO.

416 Douglas St., N. W.

MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

GRAND RAPIDS 4, MICH.

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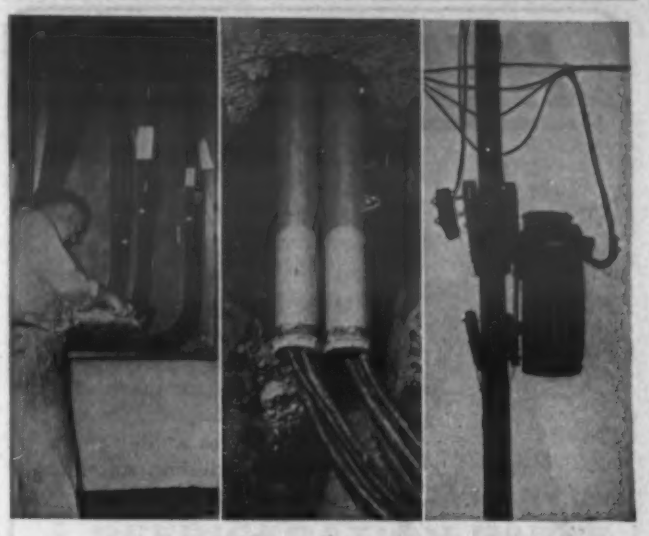

ALL-PURPOSE CABLE CUTS COST

ANACONDA's neoprene-jacketed Durasheath* cable cuts installation costs because it can be installed in ducts, buried, aerially or any combination of these—*with minimum splicing.* It reduces maintenance and replacement costs because its rugged jacket resists abrasion, moisture, corrosive chemicals and oils that shorten ordinary cable life. Durasheath is available in all sizes, single or multi-conductor, copper or aluminum, from 600 to 15,000 volts. For full information, call the Man from Anaconda. Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.

ANACONDA®

*Reg. U. S. Pat. Off.

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WIRE-MIKE takes guesswork out of wiring

- pocket size, 4½" closed, 2 oz. weight
- heavy-gauge stainless steel
- inside and outside caliper, calibrated in 32nds
- precision-etched direct reading scales
- pipe size to i. d. conversion table
- genuine leather sheath

Frankly, we never intended to get into the WIRE-MIKE business. Our engineers designed WIRE-MIKE as a labor of love—because they felt such a tool was long overdue. We made several hundred for our friends, and thought we had heard the last of it. Not so. Before you could say "WIRE-MIKE," we were snowed under with demands for this handy gadget. Since our distributors knew we couldn't keep *giving* them away, they asked us to put WIRE-MIKE into production at a nominal price. A few improvements make WIRE-MIKE better than ever—now everyone can have this famous precision lifetime tool for instantly measuring *conductor size* (stranded, solid or ACSR), *conduit size* (rigid or thinwall), and *pipe size.* Only $1.95 at your Burndy distributor. 54-20

BURNDY ENGINEERING COMPANY, Inc., Norwalk, Connect.

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New Efficiency

The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy

FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before replacement is necessary.

Sample: $1.50 postpaid (INDUSTRIAL PRICE ONLY)

FLEXO PRODUCTS, INC. Cleveland 13, Ohio

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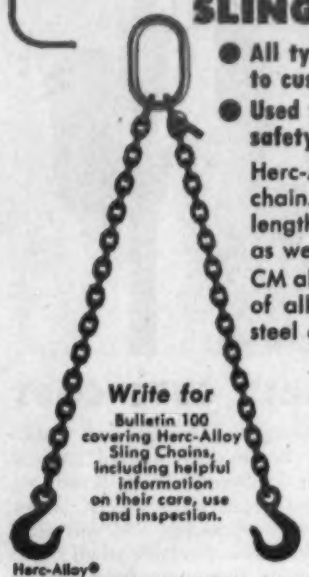
HERC-ALLOY

SLING CHAINS



- All types and sizes assembled to customers' specifications.
- Used throughout industry where safety is paramount.

Herc-Alloy is the original alloy chain. It is available in running lengths and special assemblies as well as slings.

CM also produces welded chain of all types including stainless steel and bronze.

Write for Bulletin 100 covering Herc-Alloy Sling Chains, including helpful information on their care, use and inspection.

Herc-Alloy®

COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
District Offices: NEW YORK • CHICAGO • CLEVELAND
In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONTARIO

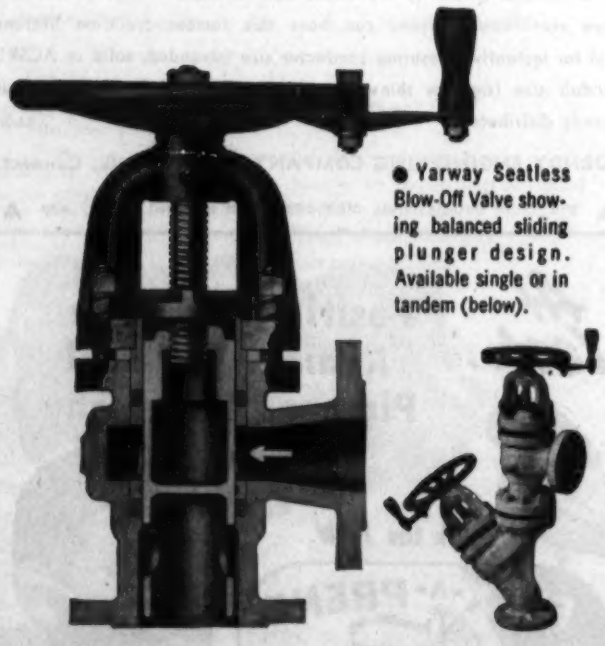
▲ For more details circle NED-664 K5 on enclosed inquiry slip ▲

KEEPS BOILER BLOW-DOWN LINES *DROP TIGHT*

Yarway Seatless Blow-Off Valves keep blow-down lines *drop tight* because *there is no seat to score, wear, clog or leak.*

The well-known balanced sliding plunger design—combined with the newest metallurgical developments—make Yarway Seatless Blow-Off Valves rate top efficiency for low and medium pressure boiler plants.

Among high pressure plants, Yarway Unit Tandem Valves are used by more than 4 out of 5.



● Yarway Seatless Blow-Off Valve showing balanced sliding plunger design. Available single or in tandem (below).

If you operate a boiler, be sure to send for the Yarway Blow-Off Valve Books—Bulletin B-426 for pressures to 400 psi or Bulletin B-433 for higher pressures to 2500 psi. Write . . .

YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

YARWAY / **blow-off valves**

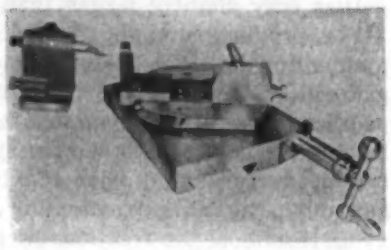
▲ For more details circle NED-665 K5 on enclosed inquiry slip ▲

FLOW RATE METER is direct-reading visual unit

Installed directly in circulating, lubricating and fuel systems, model F-8110 direct-reading flow rate meter provides visual flow indication. It is designed to cover a flow range of 7 to 70 gph and operates at temperatures from −65° to 160° F. Accuracy is within 2 per cent. Made by **Revere Corp. of America,** Dept. 73, Wallingford, Conn.

▲ For more details circle NED-666 K5 on enclosed inquiry slip ▲

RADIUS TURNING ATTACHMENT supplied with two tool holders



This radius turning attachment is designed primarily for use on Wade line of lathes although it can be used on other make lathes with an adaptor plate. Attachment is actuated by worm and worm gear to give maximum control in generating spherical surfaces. Radius can be preset to finished diameter. Capacity is 0 to 4 in. Two tool holders are supplied as standard. Holder shown in position is required to turn annular grooves or collars since its shape avoids interference with the bar. Other tool holder is used for turning spherical surfaces on the end of the bar. Made by **Wade Tool Co.,** 39 River St., Waltham, Mass.

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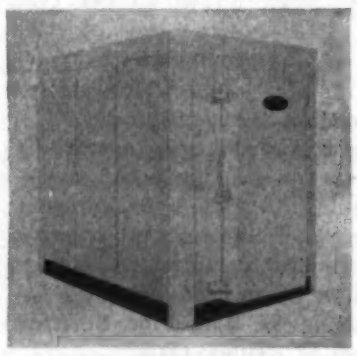
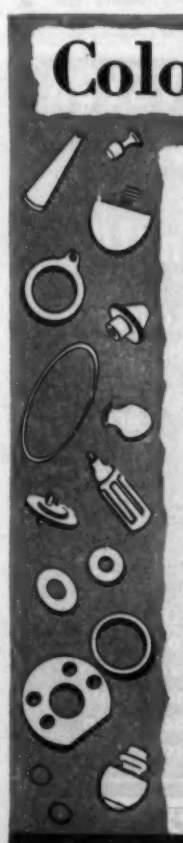
ENVIRONMENTAL TEST CHAMBER has −120 to 250° F temperature range



Actually a small prefabricated room, this Walk-In environmental test and storage chamber is shipped as a complete package, ready for quick two-man installation. Any material demanding close control of temperature and humidity can be stored in the chamber. Unit can also be used in testing various materials and equipment at temperatures from −120 to 250° F. Humidity can be controlled in standard units from 20 to 95 per cent between 35 and 185° F. Optionals include anterooms, viewing ports and program controlling of temperature and humidity. Made by **Webber Mfg. Co.,** Dept. W-1, 2740 Madison Ave., Indianapolis 3, Ind.

▲ For more details circle NED-668 K5 on enclosed inquiry slip ▲

Colonial Develops SPECIAL RUBBERS



FOR *Tough* INDUSTRIAL APPLICATIONS

CONSULT OUR ENGINEERS ON YOUR RUBBER PARTS PROBLEMS AT NO OBLIGATION

The Colonial Rubber Company has the experience, the technical staff, and the facilities to meet your *special* requirements in industrial rubber parts. Our service is fast, efficient and precise for three important reasons:

Colonial Operates Its Own
- RUBBER RESEARCH LABORATORIES
- DIE-MAKING MACHINE SHOP
- PARTS PRODUCTION PLANT

Send for Free Illustrated Booklet
Contains complete details on Colonial's custom rubber compounding and molding . . . shows *why* manufacturers can use this service to advantage.

2309

Colonial Rubber Co.
Ravenna, Ohio

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NEW FOSTORIA 20th Anniversary LOCALITES

NEVER BEFORE A LIGHT LIKE THIS!

for Machine Tools, Assembly, Inspection
MODEL 66-BP-701
$8.63 Each in Std. Pkg. of 4 List $10.15 ea.

Direct Light Exactly as you want it

Also Available with one arm

SENSATIONAL NEW FLEXIBILITY

NEW Universal Arm Joints — Bend 135°. Large frictional triple disc bearing surface. Smooth, easy movement. Instantly adjustable by hand to direct light exactly as needed.

NEW Collar Disc Joints — Rotate 180°. Combination of 135° bend joints and 180° rotating joints provides amazing articulation for positioning reflector.

NEW Reflector — Parobolic design with 6¾" orifice. Accommodates 100 watt A-21 lamp. Available with lens.

NEW Base — Universal for horizontal or vertical mounting. Outlet box base optional.

NEW Wiring — Heavy duty Levolier Socket interior in high impact plastic shell with Velumoid lamp seal. 8 ft. SPT-2 18/2 heavy duty plastic rip cord with molded plug.

NEW Finish—Semi-gloss Vista Green baked enamel. Reflector interior, high temperature White.

WRITE for Complete Catalog of Localite models for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION • Fostoria, Ohio

Localites are available through wholesalers everywhere.

LOCALITE fostoria for Light ON the Job

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Just drill a hole, drive a SEL-LOK SPRING PIN

These slotted tubular pins eliminate costly tapping, reaming, peening or milling operations. They eliminate losses associated with close tolerances. And they stay put. A full range of diameters and lengths (1/16" x 3/16" to 1/2" x 4 1/2") is stocked by authorized industrial distributors. See your SEL-LOK distributor or write STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SEL-LOK SPRING PIN DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-671 K5 on enclosed inquiry slip ▲

RESEARCH pays off in buildings, too!

Announcing

Design 12

World's finest standard prefabricated building!

This new concept in design *guarantees* a better, longer-lasting building for any operation at less cost.

INDUSTRY • AGRICULTURE • COMMERCE • WAREHOUSING

An Exclusive Product of

McCLOSKEY COMPANY OF PITTSBURGH

PITTSBURGH 1, PA.

Shipment from plants at
AMBRIDGE • ELMIRA • TRENTON • GARY • MEMPHIS
MINNEAPOLIS • PITTSBURGH • BIRMINGHAM • ROANOKE

MANUFACTURED FROM USS STEEL UNITED STATES STEEL

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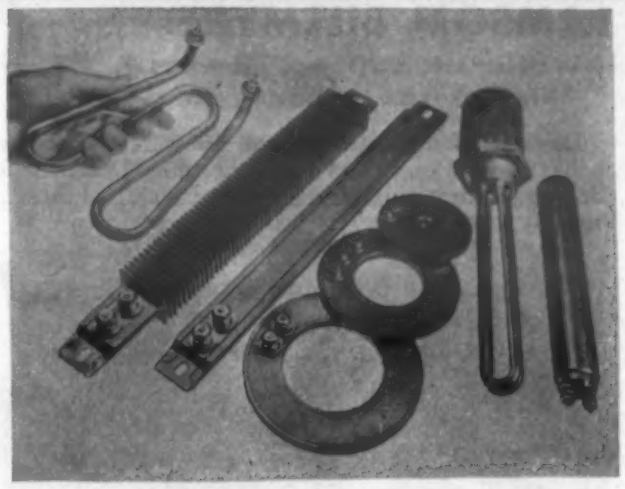


What's your need for heat?

Whatever your heating job, you'll find the efficient, economical answer in

CHROMALOX Electric Heaters

. . . for heating platens, dies, molds, metal parts . . . for heating liquids, air, gases . . . for curing, drying, baking . . . for comfort heating in offices and factories . . . for special applications . . . in fact for any application requiring fast, low-cost, controlled heat up to 1100°F.

IMMEDIATE DELIVERY from the world's largest factory stock of industrial electric heaters . . over 15,000 types, sizes and ratings.

Let the Chromalox Sales-Engineering staff solve your heating problems... electrically.

Write for your copy of Catalog 50

Contains helpful information on design, uses, and prices of Chromalox Electric heaters, elements, thermostats, contactors and switches.

To get some interesting facts about additional applications of electric heat, ask for Booklet F1550—"101 Ways to Apply Electric Heat."

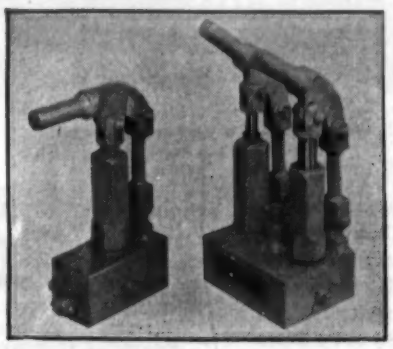
Edwin L. Wiegand Company

A-4455 7509 Thomas Boulevard, Pittsburgh 8 Pennsylvania See Ad on Pg. 4

▲ For more details circle NED-673 K5 on enclosed inquiry slip ▲

HAND HYDRAULIC PUMP

Single and Double Designs to 20,000 Psi
With or without Reservoir



Standard Reservoirs 70- 160- 910 Cu. In. Capacity

Interchangeable Pistons ⅜-½-¾ Inch

1-Inch Piston (Special)

Pipe connections ¼" N.P.T.

Handle length is 18 inches.

Unit can be bolted or welded into position.

"We specialize in hand pump units to operate in temperatures from minus 65 F to plus 160 F and with any capacity reservoirs required."

The single pump with ½" or ¾" piston now available in stainless steel.

WILLIAM S. PINE
1635 E. 22nd St., Los Angeles 11, Calif.

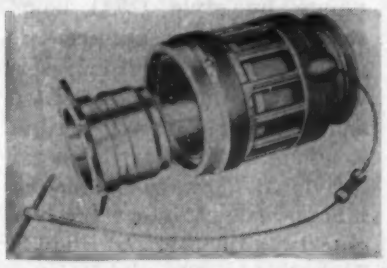
▲ For more details circle NED-674 K5 on enclosed inquiry slip ▲

RESISTANCE WELDING CONTROL
printed circuits reduce panel weight

Simplified circuitry combined with use of printed circuits reduce panel weight by 30 per cent in line of resistance welding controls. Weld timer and sequencing circuit is designed to lock out welding current should tube failure occur. Components can be replaced with conventional soldering methods. Capacitors are rated 600 v even though circuits are normally 115 v. Ignitron tubes are protected from excessive operating heat by thermostatic switch snap mounted on outer water jacket which locks out welding current at preset temperature. A water saver kit is available as auxiliary equipment. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

▲ For more details circle NED-676 K5 on enclosed inquiry slip ▲

AIR-START COUPLINGS
meet Air Force specs for 3-in. starter systems on turboprops

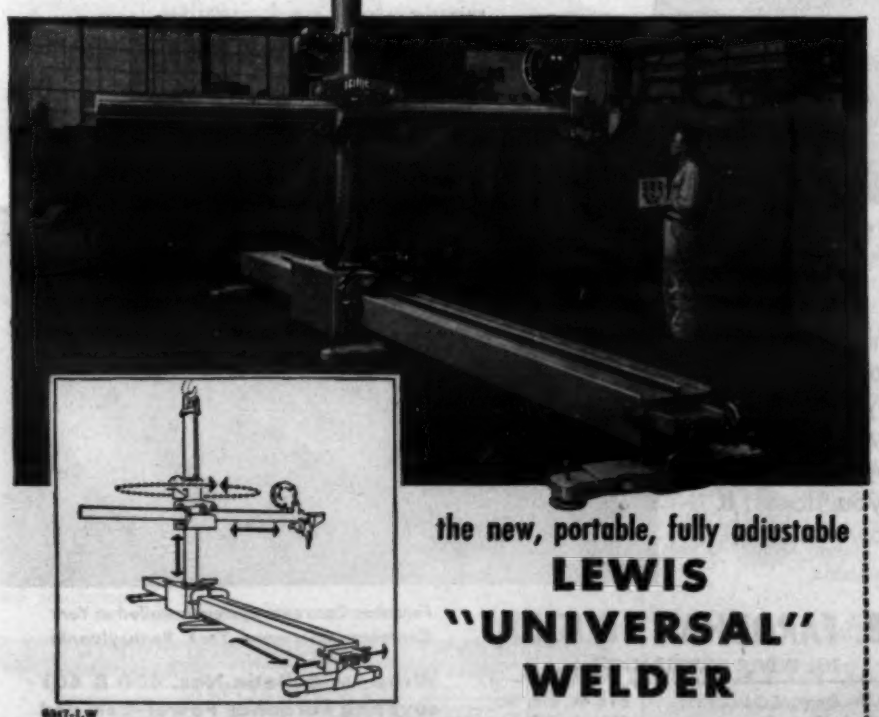


Air Force requirements for 3-in. pneumatic starter systems on turboprop and turbojet engines are met or exceeded by this air-start coupling. Operating pressure is up to 100 psi; proof pressure up to 175 psi at 700° F. A butterfly shutoff valve prevents flow of air when coupling is not locked in place on the nipple. A pressure lock in the housing prevents lanyard disconnect when system is under pressure. Coupling is made by rotating collar to lock position, or by skinning collar back as on lanyard disconnect.

Complementing these couplings is newly developed air-start hose made of pliable silicon and Fiberglas laminations. It withstands repeated bending or flexing, can be run over by rubber-tired vehicles and meets 75 psi operating, 150-psi proof and 225-psi burst pressures. It is rated for 550° F operating temperature. High wear resistance is afforded by treated, removable jacket which fits over inner unit, yet is easily removed and economically replaced. Couplings and hose made by **Roylyn Inc.**, Dept. NED, 1706 Standard Ave., Glendale 1, Calif.

▲ For more details circle NED-677 K5 on enclosed inquiry slip ▲

THE WORLD'S MOST VERSATILE WELDING FIXTURE



Exclusive features of this LEWIS automatic welding fixture include full portability . . . simultaneous 3-directional travel . . . 360° boom rotation . . . adjustable base . . . use of any standard head for welding, flame cutting or hardening.

Designed to handle a wide variety of jobs, this fixture reduces set-up time for large weldments 60% or more. It can be moved easily by crane to any plant location. Full boom rotation permits multiple set-ups with only one machine.

The LEWIS "Universal" Welder has 18 feet of longitudinal travel . . . can be supplied with booms and columns of different lengths. Transverse travel of boom and clearance under it range from 8 to 12 feet, depending on size of machine.

the new, portable, fully adjustable
LEWIS "UNIVERSAL" WELDER

LEWIS

THE LEWIS WELDING & ENGINEERING CORP.
14 Interstate Street • Bedford, Ohio

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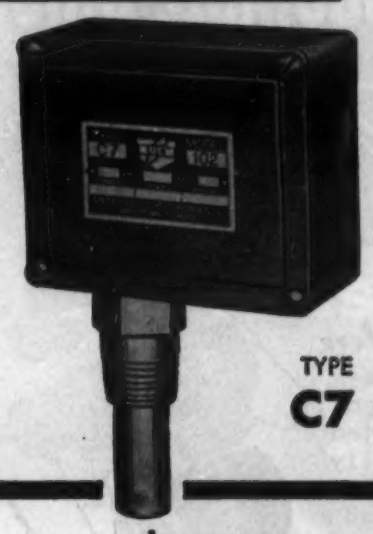
Compact
LOCAL MOUNTED TEMPERATURE CONTROL C7



offers ▶ MINIMUM SIZE ▶ MINIMUM WEIGHT

The Type C7 control is a precision-built, enclosed, compact unit especially suited for internal-combustion engine cooling systems and other industrial applications with operating limits up to 425°F. Simplicity of design assures long-life and trouble-free service. This can be provided in a skeleton version (type C47) or calibrated (type B5).

Temperature Ranges	0° to 160°F, 0° to 250°F or 200° to 425°F.
Switch Ratings	15 amps at 115 or 230 volts A.C., also D.C. or 20 amp A.C. switches upon specific[illegible]
Switch Types	N.O., N.C., or Double Throw, no neutral position.
Mounting	½" NPT on immersion element is standard.
Size	Approximately 5 13/32" x 3 3/16" x 1 9/16".
Weight	Approximately 12 ounces.
Turning Radius	2⅜".

UNITED ELECTRIC manufactures a complete line of temperature, pressure and vacuum controls. For modifications or custom-built units consult a UE application engineer today. For more data on the type C7 control and other local mounted temperature controls request Section 100 of our *new* catalog.

United Electric Controls COMPANY
81 SCHOOL STREET, WATERTOWN, MASS.

▲ For more details circle NED-679 K5 on enclosed inquiry slip ▲

Washers

SHORT RUNS...
LARGE RUNS...
Flat, concentric, burr-free

FAST DELIVERY...

from this medium-size Detroit stamping plant

For value and service, Whitehead is your source. Any metal—any special material. Whitehead has dies on hand for O.D. sizes ⅛" to 18"; any I.D. you want; any thickness from .002" to ⅜".

In stock: S.A.E. standard light, medium, and heavy steel washers; brass and copper, small and large patterns; bolt sizes.

Get this catalog for your files by writing Whitehead at Detroit. 55-2

WHITEHEAD STAMPING CO.
EST. 1903

1669 W. Lafayette Blvd., Detroit 16, Michigan

For more details circle NED-680 K5 on enclosed inquiry slip

Announcing
"ADJUSTABLE-STROKE"
MIDGET *Air-Clamp*
CYLINDERS

*TRADE MARK

Actual overall length horizontal models: 3½", 5", 6".

Now... put pressure where it's wanted instantly and cheaply, with Mead's powerful new midget air cylinders (1" bore, single-acting, spring return.) Stroke is adjustable. Use 'em singly or in groups to move, hold, press or eject small work pieces; to close and open large jigs, forms, fixtures. They'll replace human fingers and mechanical clamps in countless routine jobs.

Now! —SAVE TIME!

These 6 brand-new Midget Air Clamp cylinders with adjustable strokes variable from ⅛" to 3" can be used where longer strokes are needed *and* stroke can be "tuned" to exact length wanted even *after* setup is made!

Now! —SAVE AIR!

You can save air in large fixtures where dozens or hundreds of "Midgets" are used by adjusting stroke with special spanner wrench furnished with cylinder.

Now! —SAVE SPACE & MONEY!

The "nose" on each "Midget" also telescopes into barrel reducing stroke and overall length to save space in cramped quarters! Each Mead "Midget" is guaranteed to give you millions of trouble-free cycles—to be a better value, dollar for dollar, than any comparable cylinder. Priced so low you can almost forget it!

Actual overall height vertical models: 3⅝", 4⅝", 5⅝".

Write Factory or Nearest Mead Man For Bulletin NA-105 (See Index Thomas' Register for address, phone.)

"MORE per hour with Mead Air Power"

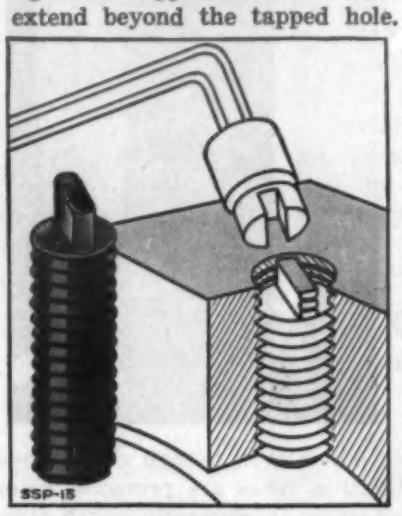
MEAD SPECIALTIES COMPANY
3555 N. Knox Ave. Dept. NA105
CHICAGO 41, ILLINOIS

PATHFINDER IN AIR POWER AUTOMATION

For more details circle NED-681 K5 on enclosed inquiry slip

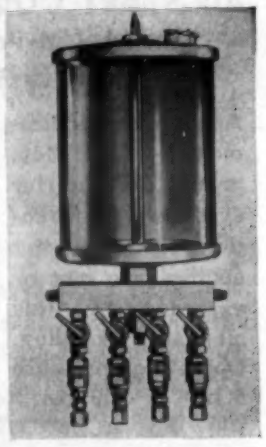
SELF-LOCKING SET SCREWS
slab head sets flush with surface

Latest Flush-Lok slabbed head set screws are designed for applications in which slab portion cannot extend beyond the tapped hole. In addition, positive locking action that is retained in all positions is provided. Screws are made with an undersize slab and are removed with special wrench provided with screws. They can also be supplied in Nu-Cup design which provides holding power advantages of 42 per cent sharper angle. Screws are suitable for hopper feeding with Setko mechanism. Made by **Set Screw & Mfg. Co.**, 130 Main St., Bartlett, Ill.



For more details circle NED-682 K5 on enclosed inquiry slip

LIQUID SOAP DISPENSERS
drop feed liquid soap lubricants



Liquid soap lubricants can be drop-fed to flat-top conveyor chains in bottling and other plants by style DMO liquid soap dispensers. Lubricant is released by gravity from reservoir by manually operated shut-off toggle on top of unit to single or multiple valves for individual flow to points of lubrication. Valves can be quickly adjusted and readily flushed out. The sight chambers are open. Transparent reservoirs have break-resistant Lucite for temperatures below 160° F and glass for over that temperature. Bodies are aluminum and valves are of brass. Units are made in six sizes with capacities of 9 oz to 1 gal. All will accommodate from one to six feeds. Made by **Oil-Rite Corp.**, 2364 Waldo Blvd., Manitowoc, Wis.

For more details circle NED-683 K5 on enclosed inquiry slip

Tool Engineering

Von Industries, Inc.—24-page catalog and price lists shows and gives data on complete line of stainless steel jig and fixture components for instrument tooling. Shown are clamps, swivel studs, jig legs, buttons, heel pins, knurled thumb screws and nuts, and standard wood tool storage boxes.

For more details circle NED-684 K5 on enclosed inquiry slip

LAMSOM BILLMYRE
offers centrifugal blowers in cast iron or heavy steel

Lamson Billmyre Centrifugal Blowers are encased in heavy steel or ¼" cast iron housing. Designed for air or gas, they range from 100 to 25,000 C.F.M. . . . from ½ to 500 hp.

Only 1 part . . . the impeller assembly . . . moves. No internal lubrication is required. Heavy duty ball bearings of standard manufacture need lubrication at most 4 times yearly. Are mounted on accessible, open-type brackets outside the housing.

Air is clean, oil-free. Delivered without pulsation. Pressure or vacuum remains nearly constant at all capacities . . . with horsepower proportional to actual air volume delivered.

Lamson Billmyre Centrifugal Blowers are assembled from parts made by Lamson. Delivery is rapid.

For further information on Lamson Billmyre Air Blowers, Exhausters, and Gas Boosters, write today for bulletin B-6 to **Lamson Corporation, 2030 Lamson Street, Syracuse 1, N. Y.** *Advt.*

For more details circle NED-686 K5 on enclosed inquiry slip

You can make BIG SAVINGS with Falk All-Steel Shaft Mounted Drives

SIX SIZES
- ½ to 30 hp
- Single or double reduction
- Wide output speed range—420 to 10 rpm

•The rugged, compact, all-steel Falk Shaft Mounted Drive is the ideal answer to countless application problems requiring dependable speed reduction in limited space. It mounts in any position directly on the driven shaft. Its precision helical gearing gives highest mechanical efficiency. No adjustable motor bases or slide rails are needed. Exclusive advanced design permits inspection of gears without dismantling unit from driven shaft or disturbing revolving elements. This versatile, economical reducing unit saves space, power, material and time—its applications are virtually unlimited.

SEND FOR FREE BULLETIN!

Let us send you our illustrated Bulletin 7101; it describes the structural and practical advantages of this all-steel Shaft Mounted Drive—and contains selection tables, application photographs and a wealth of helpful information. Write The Falk Corporation, 3043 W. Canal St., Milwaukee 8, Wisconsin.

FALK
...a good name in industry

For more details circle NED-687 K5 on enclosed inquiry slip

Farquhar Conveyor System installed at Piggly-Wiggly Midwest Co., Rockford, Illinois.

Farquhar

power-belt and gravity
CONVEYORS
Pay Dividends

Here are two fully integrated materials handling systems that illustrate how Farquhar Power-Belt and Gravity Conveyors are engineered to effect savings in a wide variety of bulk or package handling problems. Farquhar is a good buy for you, too. It will pay you to get the facts now!

OLIVER *Farquhar* CONVEYORS

A. B. FARQUHAR DIVISION
THE OLIVER CORPORATION

Conveyor Dept. E-04, York, Pa. — 618 W. Elm St., Chicago 10, Ill.

Farquhar Conveyor System installed at York Container Company, York, Pennsylvania

Write for Bulletin Nos. 400 & 401 covering Farquhar Power-Belt and Gravity Conveyors.

For more details circle NED-685 K5 on enclosed inquiry slip

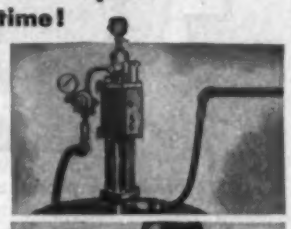
time studies prove it!

95 man hours saved for every 400 lbs. of lubricant used!

Alemite cuts costs!

all the way from barrel-to-bearing ... in maintenance ... repairs ... downtime!

Alemite Barrel Pumps fit directly into either a 400 or 100 pound drum. Lets you pipe lubricant wherever it is needed throughout your plant. Or, drum and pump can be wheeled on a dolly to machines.



This is just one of Alemite's five money-saving lubrication plans. Write for free booklet "5 Plans for Better Lubrication."

ALEMITE

Dept. 6-105, 1850 Diversey Parkway, Chicago 14, Illinois

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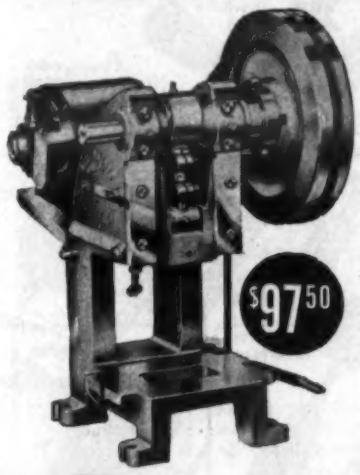
CUT COSTS with ALLEN Punch Press



$97.50

2-Ton Power Bench Type

less Motor

- Powerful
- Dependable
- Economical

FREE CIRCULAR

Fully Guaranteed
Order TODAY
Price $97.50 F. O. B., Clinton, Mo. (Includes motor bracket, V-belt, motor pulley, less motor)

Dealer Inquiry Invited

For light work — stamping, forming, riveting — metal, fiber or other material.

Overall height 20-¼" . . . Base size 9" x 8¼" . . . Die bed 6¼" x 8" . . . Ram face 1½" x 3½" . . . Ram stroke ¾" . . . positive ¾" ram adjustment . . . sturdy, single pin, non-repeat hand lever clutch . . . V-belt drive . . . weight 105 lbs.

Requires only 1/3 H.P. motor.

The machine of a thousand uses! Adequate for many types of work now done on large presses at greater expense.

Alva F. Allen • Dept. NED • Clinton Mo.

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SPENCER VACUUM

Spencer Vacuum picks up sump liquids at the rate of 30 to 40 gallons per minute. Elimination of dermatitis has been proven.

Liquids can be removed from floors and tanks, and lifted to a height of six feet and collected in tanks having a capacity 55 to 125 gallons with the Spencer Sump-Vac.

There are more than 130 other uses for Spencer Vacuum in industry described in Bulletin No. 144. They range from conveying loose materials by the ton, salvaging, handling hot materials, and of course complete, inexpensive housekeeping with safety and sanitation.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

500-F

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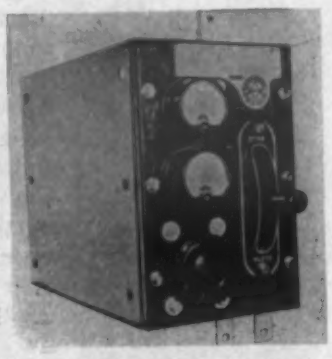
ELECTROPLATING RHEOSTAT for precise current control



Rectangular carbon plate rheostat, adjustable nickel-chromium resistor, reversing switch, voltmeter and ammeter comprise this tank rheostat for precise control of electroplating currents. It permits the selection of the proper rheostat without specifying "voltage drop." Basic adjustments are made on the adjustable resistor and fine adjustments on the carbon pile component. Reversing switch is used for etching techniques, such as used in chromium plating. Four sizes are offered, ranging from 30 or 60 amp and 12 v up to 125 or 250 amp over the same voltage range. Made by **Hanson-Van Winkle-Munning Co.**, 10 Church St., Matawan, N. J.

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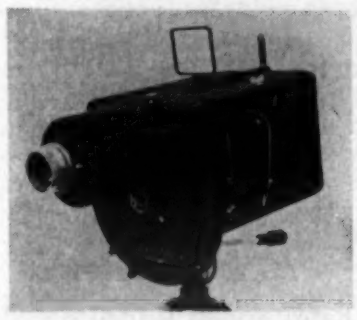
RAPID SEQUENCE CAMERA takes 5 to 20 pictures per second



Weighing only 12½ lb, this 70-mm rapid sequence camera provides 2½ x 2¼-in. negatives at rates of 5 to 20 per second when used in industrial, research and development work. An adjustable focal plane disk type shutter has variable exposure settings from 1/25 to 1/2880-second. Camera may be hand held or tripod mounted, is equipped with automatic reflex focusing and will accommodate lenses from 3 to 80-in. focal length. A small 12-v battery provides electric power, but camera can be adapted for operation on other voltages. A 100-ft roll of film provides 470 pictures. Camera is also available for pulse or single frame operation at rates up to 5 per second. Made by **Charles A. Hulcher Co.**, Dept. NED, 40 Manteo Ave., Hampton, Va.

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Balanced Valve Regulators

Rockwell Mfg. Co.—36-page illustrated bulletin 1094 details versatility and flexibility of line of high and low pressure balanced valve regulators for use in all types of industries. Types described include balanced valve regulators for safety control, shut-off, relief, secondary line control, low pressure cut-off and flow control.

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here's why we chose Spraying Systems

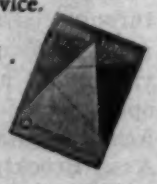
SPRAY NOZZLES

LOWER COST—it's surprising how often changeover to Spraying Systems nozzles reduces cost and materially improves the end product or process . . . due to unique design concepts and precision.

SELECTION—the range of choice in *standard* nozzles is amazing . . . over 10,000 in Catalog 24 alone . . . a type and capacity to fit exactly almost every need. It's rare that costly "specials" are needed.

PROMPT DELIVERY—huge stocks are maintained for fast delivery. For emergency needs, overnight delivery by air is a dependable part of Spraying Systems service.

Write for your free copy of Catalog 24.



SPRAYING SYSTEMS CO.

3211 RANDOLPH STREET BELLWOOD, ILLINOIS

America's leading producers of Spray Nozzles

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BOLTS · NUTS RIVETS · SCREWS

For further information, write 135 Canal Street

CLARK BROS BOLT CO.
MILLDALE CONN

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336,000 miles of extrusions!

Our extruders have turned out enough plastic and rubber extrusions to reach to the moon and halfway back. In compiling this vast experience General Tire's Industrial Products Division has supplied thousands of original equipment manufacturers with just about every known type of extrusion. No job is too large, too small or too complicated for our design and production staff. Perhaps *you* can benefit from the fantastic extrusion mileage we've accumulated down through the years.

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"From Plans to Products in Plastics and Rubber"

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WABASH INDIANA

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FLAMELESS BLOW TORCH

for quick heat up to 750°

Use the Mamco Flameless Blow Torch on any application requiring a concentrated hot air blast. You can soften, form, mold and patch plastics, etc. easily with safety . . . The Mamco Flameless Blow Torch gives you quick heat up to 750° *without flame.*

Powerful Mamco electric motor 110-120 Volt AC and DC. Turbo type fan provides steady, strong air blast. Eight foot heavy duty cord. Double jacketed heater housing. Adjustable air intake. Order direct.

Price $28.50

WRITE DEPT. N.

Master APPLIANCE MFG. CO. RACINE, WISCONSIN

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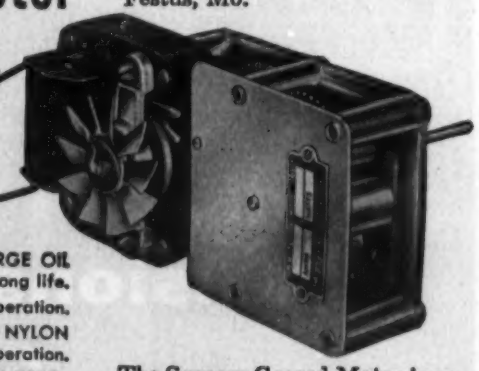
scruggs NEW geared motor

Here's the newest Scruggs "tailored" motor. It's a 2-pole shaded pole induction motor coupled to a powerful sub-fractional horsepower speed reducer. The basic motor can be furnished without the gear housing. Send us your specs . . . without obligation a Scruggs motor will be built to fit them. Write Loyd Scruggs Co., Festus, Mo.



SCRUGGS MODEL 1050 features:

- LARGE OIL RESERVOIRS for long life.
- FAN for cool operation.
- MOLDED NYLON GEARS for quiet operation.
- VACUUM IMPREGNATED COIL for operation under maximum temperature and humidity conditions.

The Scruggs Geared Motor is engineered for use in Vending Mechanisms, Actuating Devices, Dispensers and similar applications.

You can stake your reputation on SCRUGGS MOTORS.

THE Loyd Scruggs COMPANY FESTUS, MISSOURI

MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934

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NEW MINIATURE Low Capacitance SWITCHING RELAY

- Low Capacity Blades for High Frequency Switching
- Switches Mounted on Ceramic Separators

TYPE MLC

Capacitance (with 1 Form "A" switch): Capacitance between open contacts .75 mmfd; Capacitance between closed contacts 2.0 mmfd; Capacitance from contact to ground 1.25 mmfd.

Coil Resistance: Up to 6500 ohms (No. 44 AWG wire).

Contact Rating: 3 amps. @ 28 VDC max. Suitable for low level audio or r.f. loads. Contact material dependent on application.

Contact Combination: Standard, up to 1 Form "C".

Shock: Meets requirements of MIL-R-5757B.

Vibration: 10G up to 500 CPS.

Size: 23-32 W., 1 1/16" L., 1 3/16" H. with 1 Form C.

Applications: For guided missiles, h.f. communications equipment, etc.

Send For Details

Comar ELECTRIC CO. 3349 ADDISON STREET CHICAGO 18, ILLINOIS

RELAYS • SOLENOIDS • COILS • TRANSFORMERS • SWITCHES • HERMETIC SEALING

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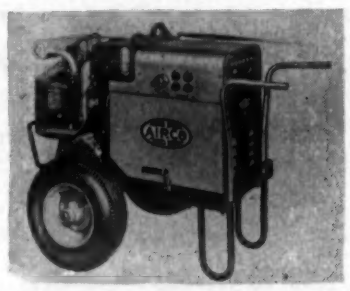
RATCHET-LEVER HOIST pulls or lifts in any position

Loads are held securely at any point by a Weston type automatic load brake incorporated in the Pull-a-Long, a lightweight portable ratchet-lever hoist-puller. It will pull or lift any object in a horizontal or vertical position and can be operated upside down. Spur-gear mechanism, used in all models except the ¾-ton, uses an alloy steel coil chain operated through a ratchet lever. Lifetime self-lubricating bearings are a feature. Hoist is offered in ¾, 1, 2, 2½ and 5-ton capacities. Made by **Desco Corp.**, Dept. N, 13111 Shaker Sq., Cleveland 20, O.

▲ For more details circle NED-700 K5 on enclosed inquiry slip ▲

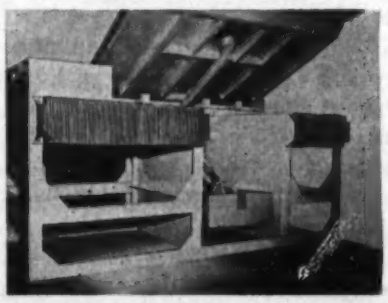
ARC WELDING UNITS driven by 10-hp gasoline engines



Equipped with air-cooled Onan 10-hp gasoline engines, models GEA200 and GEA-200L arc welders are well suited for field production and maintenance welding where ac or ac-dc electrodes of 1/16 to 3/16-in. diameter are required. Rated welding current is 200 amp, 100-cycle, single-phase with 100 per cent duty cycle. Current range is 15 to 200 amp, and open circuit voltage is 85 v. Both models can provide 1 kw, 110-v dc auxiliary power, while model GEA200L can also supply 4.5-kw, 110-220-v 60-cycle single-phase ac. Units have weatherproof construction and weigh 435 lb. Made by **Air Reduction Sales Co.**, Dept. NED, 60 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-701 K5 on enclosed inquiry slip ▲

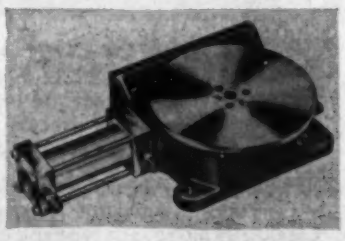
RUBBER DOCK BUMPERS segments mounted edgewise in frame



Intended to replace wood bumpers, Herco-Flex rubber dock bumpers are made of segments securely mounted edgewise in welded steel frames. End brackets are designed so that they present a full bumper surface. Bumpers bolt at each end to face plate of wood, steel or concrete dock. Several models from 12 to 48 in. long are offered. Rubber facing is abrasive resistant and has enough spring reflex to compensate for up and down motion of truck. Made by **Karl A. Herman Co.**, 333a W. Fulton St., Grand Rapids 5, Mich.

▲ For more details circle NED-702 K5 on enclosed inquiry slip ▲

INDEXING TABLES capable of 300 indexes per minute



Designed for use in areas where space is limited, two indexing dial feed tables have a 7¼-in. diameter plate, with a 10-in. plate optional. They will not over-ride and are capable of up to 300 indexes per minute with a 40-lb load. Tables can be set for 4, 6, 8, 12 or 24 indexes per revolution, with special indexes available on order. Mounting is provided for either horizontal or vertical application. Compressed air is available through the center stud for actuating secondary equipment. Model 725-EA is furnished without control valves and model 725-EB is equipped for automatic operation and has controls regulating dwell time and forward motion. Made by **A. K. Allen Co.**, 57 Meserole Ave., Brooklyn 22, N. Y.

▲ For more details circle NED-703 K5 on enclosed inquiry slip ▲

CESCO RIGHT... before your Eyes!

NOW... an Air-Conditioned Grinding Hood

CESCO No. 10256

• Slips on quick, gives complete breathing protection. Positive, regulated air supply. Large window provides full view, permits wearing of glasses or goggles. Comfortable fitting headgear prevents slipping. Hood made of double filled khaki duck. Acetate window easy to replace. A real safety device for grinders. • See your CESCO distributor or write for details.

Send TODAY for CESCO literature

CHICAGO EYE SHIELD COMPANY • 2322 Warren Boulevard, Chicago 12, Illinois

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Dallas, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Louisville, Mexico City D.F., Milwaukee, Montreal, Peoria, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa, Wichita

▲ For more details circle NED-704 K5 on enclosed inquiry slip ▲

MILL-ROSE TWISTED-IN-WIRE BRUSHES

You can order any type of special twisted-in-wire brush from us by merely sending specifications with the part to be cleaned. However, our standard line of 56 brushes may meet your needs. Send for catalog EQ 55.

HIGH PRECISION MILL-ROSE INDUSTRIAL BRUSHES

THE MILL-ROSE CO., 1985 East 59th Street, Cleveland 3, Ohio

▲ For more details circle NED-705 K5 on enclosed inquiry slip ▲

New MOBILE WORKBENCH

Foot operated locking mechanism holds workbench in position...assures stable working surface.

For ON THE SPOT

• MAINTENANCE • ASSEMBLY • REPAIR

Mobile workbench can be moved to work location by one man. Cabinet, three shelves, drawer, two doors can be locked. Designed for hard continuous service, this welded all-steel unit is fabricated of 1/8 and 3/16-inch steel plate. It is capable of supporting up to 2,000 pounds safely. Heavy-duty roller bearing casters with hard rubber or phenolic resin wheels are furnished. The "Roll-A-Bench" weighs 325 pounds and is 34-inches high, 41-inches long and 26-inches wide. Table-top is 24 x 36 inches.

Write today for literature

the Overbeke-Kain company 20979 Aurora Road • Bedford, Ohio

▲ For more details circle NED-706 K5 on enclosed inquiry slip ▲

Easy Does It

BRECO

PUSHOMATIC®
Quick Couplings

Just one hand—a simple push—no twist or turn—and the Pushomatic automatically makes a positive leakproof seal for applications up to 10,000 PSI. Made with single or double integral check valves which automatically shut off pressure while connecting. Free swivelling ball-bearings prevent twisting or kinking of lines.

Made in a variety of styles and types for air, hydraulic, and industrial fluids in sizes from ⅛" through ¾". Straight through quick couplings from ¼" through 3".

Call our nearest office or write for Bulletin 1475D

"Where *Good Connections* Count" ®

BRECO division
PERFECTING SERVICE CO.
334 Atando Ave. Charlotte, N. C.
Baltimore—Camden, N. J.—Chicago—Cleveland—Los Angeles—New York—Providence—Montreal—Toronto

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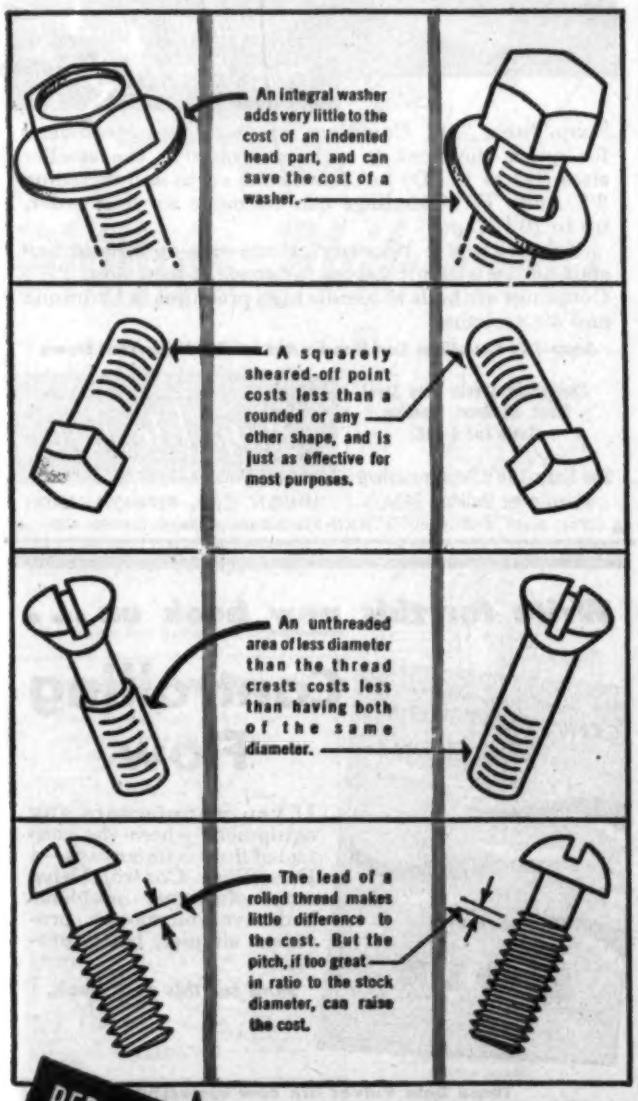
MORE WAYS TO
SQUEEZE PENNIES
OUT OF
UPSET SPECIALS COSTS

Specially designed upset products are solving thousands of problems. Dozens of design pointers on them are yours for the asking. Send us your sketches, prints, finished products for suggestions.



REPRINTS *of this chart are available on request for use in drafting and purchasing departments.*

QUALITY PROMCO BRAND

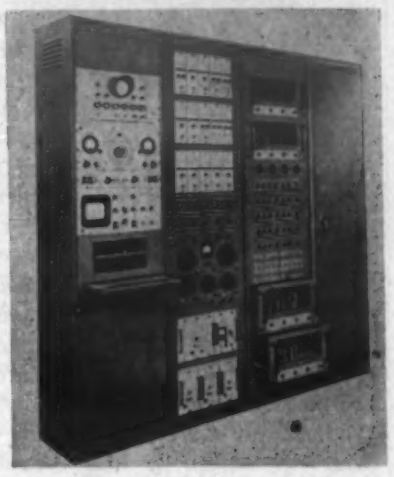
A HALF-CENTURY OF MACHINE SCREWS AND SPECIAL FASTENERS

WRITE FOR OUR CATALOG

THE PROGRESSIVE MANUFACTURING COMPANY
46 NORWOOD ST., TORRINGTON, CONN.

▲ For more details circle NED-708 K5 on enclosed inquiry slip ▲

COMPUTOR COMPONENTS for production control, problem solving and data processing



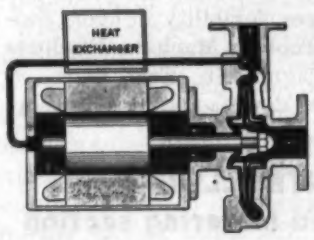
Consisting of standardized interchangeable modular assemblies which match each other in all important mechanical and electronic specifications, Servomation Building Blocks are a versatile group of electromechanical general purpose analog computor components. Various component combinations provide means for industrial production control, problem solving for both equations and control system design, classroom demonstration and experiment, and data processing.

Flexibility is achieved by plug-in units, internally wired cabinets, jack boards and external patch cord connections. Units can be rearranged and additional components added at any time. They are easily maintained because each assembly slides out of appropriately protective cabinet. When intended for a specific task, the desired units can be specially packaged to meet the demands of limited space or restricting ambients. Made by **Servo Corp. of America,** Dept. NED-1055, 20-20 Jericho Turnpike, New Hyde Park, L. I., N. Y.

▲ For more details circle NED-709 K5 on enclosed inquiry slip ▲

HIGH TEMPERATURE PUMP handles fluids as high as 1000° F

Integral heat exchanger is combined with high temperature pump design in leakproof "canned motor" Chempumps, developed for handling Dowtherm, Arochlor, hot fats and oils and similar fluids at high temperatures. Pumped fluid entering the rotor chamber encounters a "necked down" area between motor and pump which provides a thermal barrier and narrow restriction for passage of hot pumped fluid. A secondary impeller mounted on the rotor circulates rotor chamber fluid through a water cooled heat exchanger. Depending upon cooling water temperature, pumps can handle fluids up to 1000° F. Model CHS pumps are offered in 5 and 7½-hp sizes and model CFT units in ¾ and 1½-hp sizes. Maximum head developed is 195 ft and maximum capacity is 250 gpm. Made by **Chempump Corp.,** Station I, 1300 E. Mermaid Lane, Philadelphia 18, Pa.



▲ For more details circle NED-710 K5 on enclosed inquiry slip ▲

...Use the Right Tools For Your Job...

PIONEER's

"Hand Protection Clinic" Helps You Solve Your Industrial Glove Problems

Send a complete job description on your company stationery. Include dexterity and abrasion resistance requirements, and a complete description of chemicals or solvents used; plus notes on any extreme temperatures encountered. Our solution of your glove problem assures you of maximum employee protection and efficiency at minimum cost. Write—Attn: Hand Protection Clinic.

New knit cotton lined Stanflex VL-34 with its highly flexible red vinyl coating features PIONEER's exclusive non-slip grip. Outwears leather on rough abrasive use yet withstands most industrial chemicals. Write for complete PIONEER line catalog today.

the PIONEER Rubber Company
234 Tiffin Road, Willard, Ohio, U. S. A.

Pioneers in Industrial Hand Protection for over 35 Years

▲ For more details circle NED-711 K5 on enclosed inquiry slip ▲

Years Ahead IN DESIGN
Wheeler
FLO-LINER

Combines high efficiency and smart styling with unique maintenance ease and economy. When detached, louver assembly is automatically suspended below channel by supporting chains — allows quick, easy access to operating equipment — 2 lamp and 4 lamp units for both single pin and bi-pin lamps!

Write for special FLO-LINER bulletin

Wheeler REFLECTOR COMPANY
275 CONGRESS STREET — BOSTON 10, MASS.
Distributed Exclusively Through Electrical Wholesalers

▲ For more details circle NED-712 K5 on enclosed inquiry slip ▲

NEW metering-check valve improves Rockwood Eductor performance

In Rockwood Eductors the new variable metering-check valve adds two important advantages to automatic liquid-proportioning. The calibrated dial permits varying the mixture to include from 1% to 6% of the introduced liquid. And the ball check valve prevents the basic liquid from flowing back into the additive if the nozzle is shut off or stoppage occurs in the line.

Connected into fire hose lines, Rockwood Eductors introduce Rockwood WET, Regular Strength FOAM or Double Strength FOAM — *automatically*, in the correct proportions determined by the dial setting on the metering-check valve.

They have many other uses. Perhaps Rockwood Eductors are the answer to your own liquid-proportioning problems. Why not consult Rockwood engineers?

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
Portable Fire Protection Division
2025 HARLOW STREET, WORCESTER 5, MASSACHUSETTS

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RAISE AND LOWER HEAVY LOADS... QUICK AND EASY

WITH GLOBE Electro-LOADERS

Ramps, stairs, make-shift inclines are eliminated; trucks, trailers, rail cars are conveniently and safely loaded when a Globe Electro-Loader is on the job.

For permanent, temporary, or portable use. Installed in a few hours on any paved or wood surface. Only four base plates to anchor. Or mounted on casters for full mobility if desired.

Clearance of 6'11" under torque tube permits large loads and use of most fork trucks. Lifting capacity is 6000 lbs.

Write for complete information (Form 1-202) Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

GLOBE
Electro-LOADER
PLANTS, DES MOINES—PHILADELPHIA

▲ For more details circle NED-714 K5 on enclosed inquiry slip ▲

Order USG® BRUSHES because...

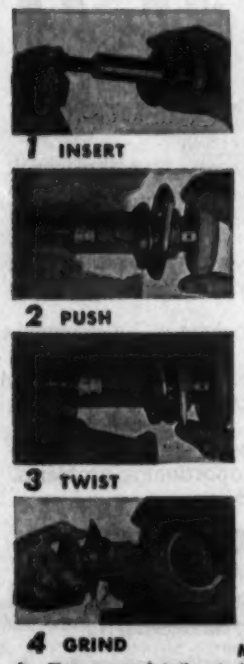
- Years of practical experience in all types of applications assure you of the proper USG brush for your equipment.
- Controlled manufacturing uniformity gives you the same brush every time you order.
- There is a USG representative near your plant. See him or write for your copy of the USG Brush Catalog B49 today.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION
SAGINAW, MICHIGAN
198-A

▲ For more details circle NED-715 K5 on enclosed inquiry slip ▲

STOP WASTING DRILLS!

NEW LIFE FOR OLD DRILLS WITH BLACK DIAMOND DRILL GRINDER!



The BLACK DIAMOND Drill Grinder restores a worn drill to like-new precision sharpness . . . in 10 seconds! Any inexperienced man (or woman!) is an expert grinder with this unit. Both lips ground at once . . . web-thinning equally simple! Pays for itself many times over!

FREE BULLETIN

Get all the facts! 4 page illustrated bulletin gives complete story. Write Today!

BLACK DIAMOND
SAW & MACHINE WORKS
72 NORTH AVE. NATICK, MASS.

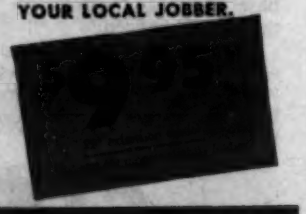
▲ For more details circle NED-716 K5 on enclosed inquiry slip ▲

CHANGE FROM CORD TO Cordomatic "600"

Light When You Want It . . . Where You Want It

- ★ A rugged and dependable piece of equipment—gives you light where you want it . . . when you want it.
- ★ Unconditionally guaranteed for one year!
- ★ Reinstallation costs. Just hang up, plug in!
- ★ Foolproof Recoil mechanism . . . locks at any desired length!
- ★ U/L Approved #18-2 Neoprene, Kink-proof cord! Oil resistant.
- ★ New "Stubby" Handle! 100% Neoprene!
- ★ New type "swing open" guard.

AVAILABLE THROUGH YOUR LOCAL JOBBER.



Cordomatic
DIVISION OF THE VACUUM CLEANER CORP. OF AMERICA
1724 INDIANA AVE., PHILA. 32, PENNA.

▲ For more details circle NED-717 K5 on enclosed inquiry slip ▲

HORIZONTAL MOTORS
with face type mounting brackets

Uniclosed horizontal motors with face type mounting brackets for direct connection to driven equipment are built to rerated NEMA specifications in ratings from 1 to 30 hp. Compact motors have either style C or D brackets and are easily connected and automatically aligned to driven equipment. Ventrifoil deflectors direct air and deflect water. Other features are integrally cast one-piece frame, asbestos protected winding, split type conduit box for location on either side and Lubriflush lubrication of ball bearings. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

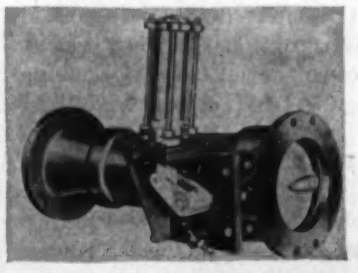
▲ For more details circle NED-718 K5 on enclosed inquiry slip ▲

BASIC INDEXING CHASSIS
applied to assembly operations

Straight line type Auto-Tran indexing chassis is a basic transfer type unit for both automatic and semiautomatic assembly operations. Faces permit mounting machine units for drilling, tapping, staking and other operations. Ample area is available for mounting hopper feeders in any position around the chassis. Unit is offered with 48 to 72 work carriers, with 3, 6, 9 or 12-in. index travel and with either vertical or horizontal mounting surfaces on the carriers. Swanson cam indexing unit provides a smooth index, and a Warner electric clutch brake with standard electric motor drive gives flexibility in cycle control. Made by **Swanson Tool & Machine Products Co.**, Dept. PD-33, 808 E. Eighth St., Erie, Pa.

▲ For more details circle NED-719 K5 on enclosed inquiry slip ▲

RATE-OF-FLOW CONTROLLER
is power-actuated metering section



Control accuracy within 3 per cent is afforded in range of 25 to 100 per cent of line capacity with this power - actuated rate-of-flow controller for use in processing or industrial plants. It is comprised of a venturi metering section and a pressure recovery section with a pneumatic, hydraulic or electric positioning control unit. Cast iron body is designed for 125-psi working pressure and has pressure-averaging annulus at the inlet and closed annular chamber with multiple vents at the throat. Bronze lined venturi section affords accuracy. Model RCB-T has a rubber-seated butterfly valve for tight closure. Made by **Builders-Providence, Inc.**, 425 Harris Ave., Providence 1, R. I.

▲ For more details circle NED-720 K5 on enclosed inquiry slip ▲

SLURRY MIXER
with 4, 6 or 8-in. rotors

Design changes in this RP series of Disintegrators used in mixing, blending or dispersion of slurries have resulted in high degree of functional compactness. Model shown occupies only 2 sq ft of floor space. Angled motor mount and motor serves as self-contained base for entire unit. Disintegrator heads are available with 4, 6 or 8-in. diameter stainless steel rotors, to operate on from 2 to 25 hp. These units can handle almost any capacity when tied to pressure line for pressure-in, pressure-out operation. Made by **Rietz Mfg. Co.**, 190 Todd Rd., Santa Rosa, Calif.

▲ For more details circle NED-721 K5 on enclosed inquiry slip ▲

Shock loads can't hurt this fluid motor

DENISON AXIAL PISTON FLUID MOTORS
Recommended for the toughest jobs ...without qualification.

Ratings up to 180 hp, 5665 inch-pounds torque. For circuits to 5000 psi.

Get the facts. Send for Denison's Fluid Motor Bulletin FM-2. Write to: THE DENISON ENGINEERING COMPANY, 1192 Dublin Road, Columbus 16, Ohio.

DENISON HydrOILics

PUMPS • MOTORS • CONTROLS • PRESSES

▲ For more details circle NED-722 K5 on enclosed inquiry slip ▲

QUICK-CONNECT QUICK-DISCONNECT COUPLINGS

Snap-Tite's "H" Couplings are now factory-stocked for quick shipment to you, not only in the smaller sizes (below 1" ID) but in all sizes up to and including 3". And "H" Couplings can be made to your order, up to 10" ID.

Valved to give two-way or one-way automatic line shut-off, or without valves for straight-thru flow, "H" Couplings are built to handle high pressures in hydraulic and air systems.

Snap-Tite Couplings Can Handle Almost Anything That Flows

Stocked in Special Alloy Steel, Brass, Aluminum, Stainless Steels 303 & 316.

See Snap-Tite's Representative or write for Bulletin 240A.

Snap-Tite, INC.
UNION CITY, PENNSYLVANIA

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Write for this new book on . . .

Controlling Flow

If you manufacture any equipment where the control of fluid is important—a Dole Flow Control Valve may solve your problems and save you money, provide a simpler, better product.

Send for this new book.

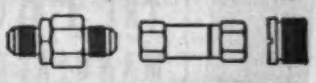
These Dole Valves are now successfully used on the following equipment:

- Tankless Heaters
- Automatic Washing Machines
- Water Softeners
- Drinking Fountains
- Coffee Makers
- Drink Dispensers
- Shower Heads
- Automatic Dishwashers
- Sprinkler Heads
- Ice Making Machines

AND SIMILAR APPLICATIONS

Control with DOLE

Typical Dole Flow Control Valves



THE DOLE VALVE COMPANY
1901 W. Carroll Ave. • Chicago 12, Ill.

▲ For more details circle NED-724 K5 on enclosed inquiry slip ▲

LOW COST INDUSTRIAL INCINERATOR

New 12 bushel capacity burner provides safe and efficient outdoor refuse disposal at low cost. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing bits of paper. Intense combustion burns damp, green or dry refuse to fine ash in any weather. Minimizes smoke and smell. Needs no watching. Won't blow over. Ends refuse hauling and fire hazards. Safe for use within 10 feet from out buildings. Satisfaction guaranteed. Only $68.95—F.O.B. Cleveland. Immediate shipment. Send purchase order, today.

SPECIFICATIONS

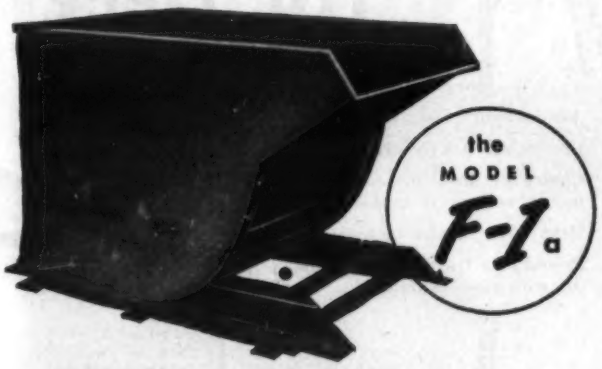
- *Stands 5' high x 36" square at base — lifts off 10" high ash pan.*
- *12 bushel burning capacity*
- *Made of Armco rust-resistant aluminized steel (molten aluminum bonded to steel).*
- *Complete with ash pan base and grate.*
- *Needs no auxiliary fuel.*
- *Shipped completely assembled—weight 165 lbs.*

ALSTO COMPANY

Dept. NED 10 • 4007 Detroit Ave. • Cleveland 13, Ohio

▲ For more details circle NED-725 K5 on enclosed inquiry slip ▲

New Easy Way To Handle Bulk Materials!



Phillips *Phil-Dump*

Bulk materials of all kinds are handled with maximum efficiency at minimum cost . . . with the Model F-1 "Phil-Dump". Used with pallet or fork lift truck, it automatically dumps and returns to original position. Smooth, rolled edges of 3/16" steel plate, welded undercarriage provide safety, long-life, strength and durability. Capacity—1 cu. yd.

Write for Bulletin E-15

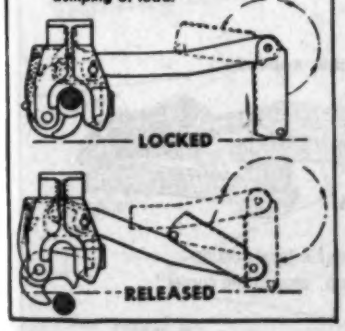
Heaviest materials easily handled with pallet truck.

Automatically dumps materials, returns and locks in original position.

Conveniently stacked, empty or full.

New Safety Lock*

Provides maximum safety for operator—prevents accidental dumping of load.



SALEM-BROSIUS, INC.

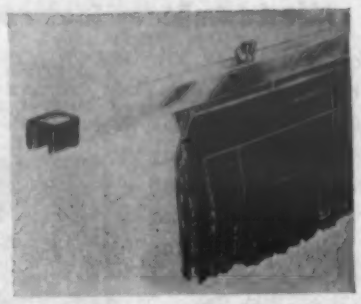
15 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

Manufacturers Since 1863

▲ For more details circle NED-726 K5 on enclosed inquiry slip ▲

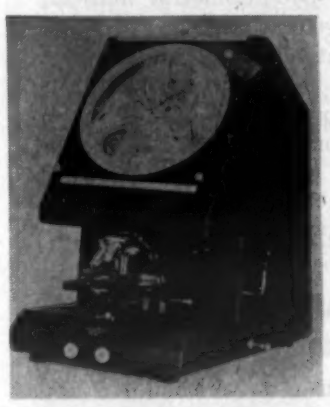
BLUEPRINT HOLDING DEVICE
holds up to 150 prints



Designed to fit any existing plan rack or file, the Plan Hold print holding device will grip up to 150 prints or engineering plans without mutilating them in any way. Prints can be added or removed quickly without disturbing other prints. Device snaps open when its two wing nuts are loosened. Nuts and studs are located on end of holder and do not contact the prints. Plans always lie flat. Holder is made of aluminum with all corners and edges rounded and has soft plastic tips to protect against scratching of desks or reference tables. Made by **Air Comfort Co.**, Plan Hold Div., 5204-C Chakemco St., South Gate, Calif.

▲ For more details circle NED-727 K5 on enclosed inquiry slip ▲

PROJECTION MICROSCOPE
75 to 1000 X magnifications are shown brilliantly on viewing screen



Brilliant image of part or piece being inspected is projected on the 8-in. viewing screen of the Micro-Viewscope, a microscope with built-in illuminating system and projection elements. Magnifications ranging from 75 to 1000 X are obtained by means of a set of three or four achromatic objectives on a revolving nosepiece and built-in plane eyepiece. For observations in polarized light, the instrument may be equipped with filter polarizer and filter analyzer.

Viewing screen can be replaced by a vertically or horizontally adjustable frame with a holder for plates or cut film for photomicrography. Standard 4 x 5-in. Graflex accessories and the Polaroid Land camera back can be used. A sliding, rotating transparent scale calibrated in 100-mm divisions for measuring of specimens is also incorporated. Made by **William J. Hacker & Co.**, Dept. ED, 82 Beaver St., New York 5, N. Y.

▲ For more details circle NED-728 K5 on enclosed inquiry slip ▲

Portable Power Tools

Rockwell Mfg. Co., Delta Power Tool Div.—"Make Up Your Own Mind" is title of a fact booklet which shows how highly accurate, portable power tools are being used to supplement, as well as replace, heavy, more costly machine tools.

▲ For more details circle NED-729 K5 on enclosed inquiry slip ▲

IN A JAM

If your bulk materials violate the law of gravity, what you need is a Cleveland Vibrator. Materials like sand, chips, concrete — or even vegetables and candy bars — will come charging out of their bins like gamblers during a raid when you attach a Cleveland Vibrator. The firm but gentle motion prevents packing and arching. Production and shipping schedules move along with no delay at the hoppers. So remember, if your bulk materials are in a lock-up, bail them out with a Cleveland Vibrator.

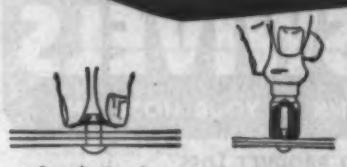
Available in eight sizes; noiseless or standard; air or electric. For full information and literature write:

The Cleveland Vibrator Company

2744 Clinton Ave. • Cleveland 13, Ohio

▲ For more details circle NED-730 K5 on enclosed inquiry slip ▲

Cut Fastener Costs 25% or More with Tinnerman Push-On *Speed Nuts*®



New Tinnerman Push-On Type SPEED NUTS offer the ultimate in fastening economy and efficiency. They cost less than ordinary fasteners, eliminate costly threaded parts. These one-piece, self-locking, spring steel fasteners start by hand, zip down over integral studs, rivets, tubing, nails, any unthreaded parts. They provide a bite lock on smoothest, hardest surfaces . . . vibration-proof attachments on all popular stud sizes, round, D-shaped, rectangular. Write for literature and free production samples.

TINNERMAN PRODUCTS, INC.

BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

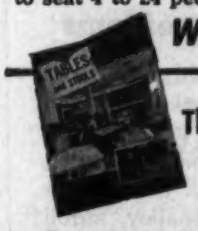
▲ For more details circle NED-731 K5 on enclosed inquiry slip ▲

ONLY "CHF" TABLES

TOPS Choice of Polished *14 Ga. Stainless Steel; Formica* in all colors and designs; *Caf-o-lite* or *Edge Grain Maple!*

SEATS Choice of upholstered or hardwood seat, with back rest or seat only; cast iron seat in porcelain enamel colors; or Anodized aluminum seat.

BASES Lifetime Cast Construction in your choice of colorful enamel paint finishes. Units available in lengths to seat 4 to 24 people.



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DISTRIBUTORS IN ALL PRINCIPAL CITIES

The Chicago Hardware Foundry Company

"Dependable Since 1897"

19105 Commonwealth Ave.

NORTH CHICAGO, ILL.

▲ For more details circle NED-732 K5 on enclosed inquiry slip ▲

no more cold feet with *Electro-Mat*

helps prevent colds

Production line and office workers can now work in absolute comfort

The new low priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 75 Watt light bulb. It is made of high quality neoprene rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism by equipping each employee with an Electro Mat.

Mail check or money order today Only $7.95 Delivered

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $6.95

Please send me: ☐ Electro Mat at $7.95 each. Enclosed is my check ☐ money order ☐ ☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $6.95 plus C.O.D. fee

Name _____

Street _____ Zone _____

City _____ State _____

10 Day Money Back Guarantee

INTERSTATE RUBBER PRODUCTS CORP., Dept. 114

906 Avila St., Los Angeles 12, California

Dealer Inquiries Invited.

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Won't Pull Apart!

OPW HOSE SWIVELS

THE STRONGEST LINK IN YOUR HOSE LINE

- NO PRODUCT LOSS
- NO DESTRUCTION OF PROPERTY
- NO HAZARD

Add life to your hose . . . make it easier to handle . . . eliminate twisting, kinking and tension resulting from rotary motion. Use OPW's leakproof Swivels with fueling nozzles, liquid dispensing nozzles, on all hose lines.

No. 2 Swivel for heavy duty pressure or vacuum service.

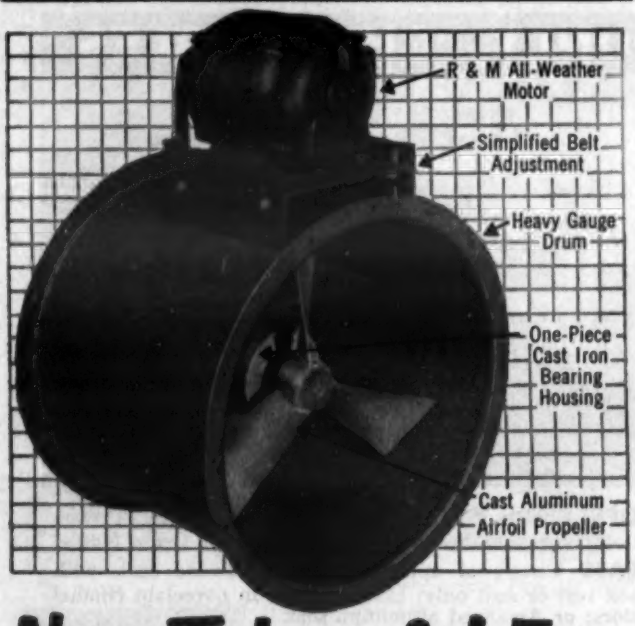
No. 17-ST Swivel for stationary installations such as service station delivery hose or similar applications.

WRITE FOR BULLETIN NP-3

OPW CORPORATION

2729 COLERAIN AVENUE • CINCINNATI 25, OHIO

For more details circle NED-734 K5 on enclosed inquiry slip



New Tubeaxial Fan

solves tough air-handling problems

Here is Propellair's new answer to your old problem of handling difficult fume removal safely, efficiently and *economically*. The new Type BT Tubeaxial Fan is specifically designed to handle corrosive and explosive fumes, abrasive dusts, high temperature air . . . all the difficult air-moving problems. New, cast aluminum-alloy, airfoil propeller assures maximum efficiency. Dependable Robbins & Myers motor is protected inside and out against damaging environments. All sizes are available for immediate shipment.

PROPELLAIR "BT" FANS have the unique new features you've been looking for

1. Drum and streamlined belt tube are rolled from 12-gauge steel plate with gas-tight welds . . . no seams to leak or collect corrosive condensate. Clean design assures perfect bond of corrosion-resistant coatings.
2. Versatile motor-mount accommodates a wide range of motor sizes . . . makes motor changes quick and easy.
3. One-piece cast iron housing isolates bearing from the air stream . . . both bearing seats machined at one setting for permanent, perfect alignment.
4. Special high-strength, cast aluminum-alloy propeller . . . higher efficiency and greater corrosion resistance.

Certified Ratings PFMA

Write for Bulletin 620-N

R&M Propellair "BT" Fans

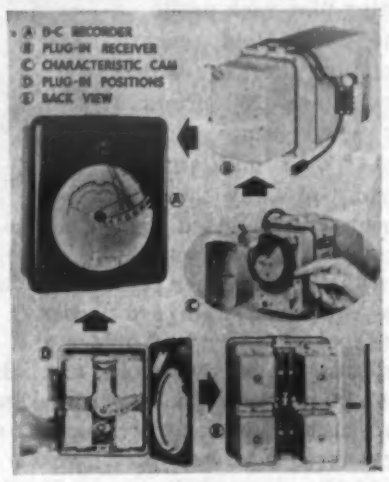
DIV. OF ROBBINS & MYERS, INC., SPRINGFIELD, OHIO

Man Cooler Direct Drive Sky-Blast Vaneaxial Extended Shaft

For more details circle NED-735 K5 on enclosed inquiry slip

RECEIVER-RECORDER

also controls process variables and combines four records on chart



Now available for direct current type pickups and telemetering systems used in power and process plants and in laboratories, this electronic receiver-recorder and controller records or controls such variables as temperature, pH, force and pressure, flow and level, speed, radioactive isotope detection, current, voltage and power. Recorder can house as many as four plug-in direct current receivers or two receivers and two pneumatic controllers. It is thus possible to combine four records from dc or ac pickups or pneumatic transmitters on the same uniformly-graduated circular chart.

Receiver operates on the potentiometric null-balance principle, using an electronic voltage reference in place of the conventional standard cell and battery. Receiver ranges are 0-2 mv to 0-20 v dc. Error is less than ¼-per cent for spans of 10 mv or more. Sensitivity is 0.05-per cent for all spans. Power supply is 110-v ac. Made by **Bailey Meter Co.**, 1022 Ivanhoe Rd., Cleveland 10, O.

For more details circle NED-736 K5 on enclosed inquiry slip

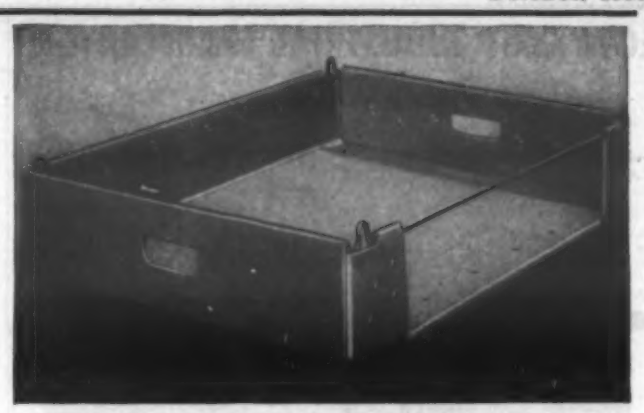
DRAFTING BOARD LAMPS

upward glow reduces eyestrain

Six louvers in the top of the metal shade of RF drafting board lamps permit a soft upward glow of light that cuts down eyestrain by eliminating shadows

and minimizing contrasts. Dust which normally would accumulate on the fluorescent tubes passes upward through the louvers, thereby increasing light efficiency. Lamps have friction-free adjustment and will extend from a minimum of 12 in. to a maximum of 37 in. Total of eight types in both fluorescent and incandescent models are offered, the latter having the Kold shade which is cool to the touch, even when burning a 100-w bulb. Made by **General Lamps Mfg. Corp.**, Faries Lamp Div., Dept. MD, Elwood, Ind.

For more details circle NED-737 K5 on enclosed inquiry slip



Solid fibre beats out wood, metal, plastic on tough job

The highly competitive baking industry is now using solid fibre bread trays to reduce shipping costs from bakery to retail outlet.

Why fibre board instead of wood, metal, or plastic? It's less costly — and a lot lighter than wood or metal. It can be attractively printed. It's sturdy enough to be used again and again. It's moistureproof — can be kept outside, cleaned when soiled. It can be fabricated in most any shape.

Maybe there's a use for light, strong, inexpensive fibre board in your field. Gair will be glad to help you explore the possibilities. Write us.

GAIR — SHIPPING CONTAINERS

FOLDING CARTONS • PAPERBOARD

ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK 17, N.Y.

For more details circle NED-739 K5 on enclosed inquiry slip

Hy-Deck

ALL-HYDRAULIC ELEVATING PLATFORM

- Available in a wide variety of working heights up to 43 feet.
- Lowers to truck for safe overhead clearance while traveling.
- Choice of three power sources: gasoline engine, electric motor, and power take-off.
- Most units can be customer-installed.
- Priced at a fraction of the cost you'd expect to pay for a lift with equal capabilities.

Here is a hydraulic lift priced within every budget large or small. Mounted on your truck, this versatile lift becomes a mobile elevating work platform. Yet this same unit can be mounted on the floor of your factory or warehouse to operate as a utility elevator.

Write for our new catalog

25 N. FOURTH AVENUE **G. W. GALLOWAY CO.** ARCADIA, CALIF.

For more details circle NED-740 K5 on enclosed inquiry slip

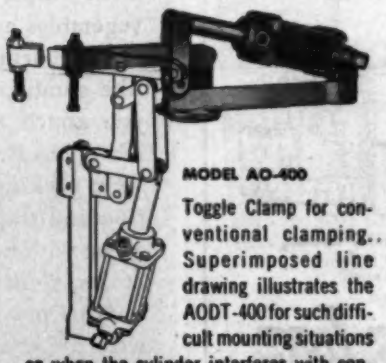
Automation AND LAPEER AIR-OPERATED CLAMPS

See all of these at our BOOTH #706, METAL SHOW at Philadelphia in October.

Here are pictured just two Lapeer AIR-OPERATED Clamps—of many models available to assist in achieving AUTOMATION in your plant!

There are models for 200 lbs. . . . 400 lbs. . . . and 1200 lbs. clamping force!

And if it's HEAVY-DUTY type you need, we have those too!



MODEL AO-400

Toggle Clamp for conventional clamping.. Superimposed line drawing illustrates the AODT-400 for such difficult mounting situations as when the cylinder interferes with conventional clamping.

MODEL AODT-400

Double-toggle clamp to clamp "around the corner"

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KNU-VISE PRODUCTS — LAPEER MANUFACTURING CO.

3062 DAVISON ROAD • LAPEER, MICHIGAN

WESTERN DIV.: 422 Magnolia, Glendale, Calif. • CANADIAN DIV.: Higginson Engr., Hamilton, Ont.

Manufacturers of a complete line of Stationary and Portable Clamps and Pliers

For more details circle NED-738 K5 on enclosed inquiry slip

"See all" with...

BOWSER

FLOW SIGHTS

Bowser Flow Sights let you "see all"—enable you to keep a watchful eye on your liquid handling operation. It pays to know the quality or the approximate quantity that's going through your lines.

Available in either single or double window types, in gravity or pressure models with or without electric control switch. Bowser Flow Sights are made in various metals for a variety of liquids.

Fig. 811 Flow Indicator

Fig. 54A Flow Sight

Fig. 816 Teleflo Indicator

BOWSER, INC.
1381 Creighton Ave., Fort Wayne 2, Indiana

Liquid Handling Specialists Since 1885

▲ For more details circle NED-741 K5 on enclosed inquiry slip ▲

Now time your jobs

AUTOMATICALLY with CALCULAGRAPH!

Prints date..

starting time..

finishing time..

— and total elapsed time!

Save time and eliminate clerical errors with Calculagraph accurate-to-the-minute, printed job time records. Use these data cards for computing costs, estimating on reorders. One Calculagraph can record job time data for an entire shop or department.

NEW! AUTOMATIC DATER!

Standard on all electric models. Automatically changes date — eliminates incorrect dating of records.

Agents in Principal Cities—Ask for a Demonstration. Call or Write Dept. 302

CALCULAGRAPH COMPANY
Sussex St., Harrison, New Jersey
STANDARD OF ACCURACY SINCE 1892

▲ For more details circle NED-742 K5 on enclosed inquiry slip ▲

PERFORATING UNITS
wear parts are easily replaced in these combination punch-die units

Adaptable for mounting on templates, T-slotted plates in flat bed presses and in strip template bed-rails for press brakes, Unipunches are versatile perforating units. Series A units shown have maximum capacity of ¼-in. mild steel and are available in stock holder widths from 1 to 2½ in. They provide a perforating range of 0.093 to 1.5 in. Fig. 2 shows the two-piece punch where the punch head slides off the body so only the tool steel punch body need be replaced. Fig. 3 shows the small button die which is held firmly in the die pedestal of the holder and which can be replaced without removing the holder from the setup.

Button dies can be changed readily to provide the proper clearance for various stock thicknesses. Pilot pin is concentric with the punch and die, and is a constant ⅜-in. diameter so that single hole size is all that is required in laying out a pattern on a template. Made by **Punch Products Corp.**, 3808 Highland Ave., Niagara Falls, N. Y.

▲ For more details circle NED-743 K5 on enclosed inquiry slip ▲

HYDRAULIC VISE
actuated and controlled by pedals

Several improvements have been incorporated in this model 1004 hydraulic vise (*NED Oct.* '51). Two simple foot pedals control operation of vise, one for application of gripping pressure and other for release. Thus, both of operator's hands are free to manipulate the work. Stop control is adjustable so that the vise grips and holds production work with a single power stroke. New hydraulic pump has replaceable cartridge which contains the main check valve, release valve and by-pass relief valve. Closing speed is 1¼ in. per pump stroke. Replaceable tool steel jaws grip work without damaging it. Maximum pressure of 4-in. jaws is 4000 lb, and maximum opening is 6 in. Made by **Columbian Vise & Mfg. Co.**, 9023 Bessemer Ave., Cleveland 4, O.

▲ For more details circle NED-744 K5 on enclosed inquiry slip ▲

See What's New in Electronics

FREE!

Send for NEWARK'S 1956 CATALOG

260 pages of the newest developments in test instruments, tubes, capacitors, transformers and everything you need in Electronics, Radio, TV, Amateur and High Fidelity.

NEWARK ELECTRIC COMPANY
Dept. N10, 223 W. Madison, Chicago 6, Ill.
WEST COAST BRANCH
4731 W. Century Blvd., Inglewood, Calif.

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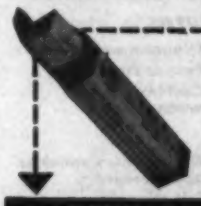
In a matter of minutes you can

REPAIR DAMAGED GALVANIZED SURFACES

with AMCO galvanizing compound

AMCO No. 321 (Powder) flows freely, covers completely, will not damage area around the repair, makes a perfect bond with the base metal and surrounding zinc coating. Comes in 1, 10 and 100 lb. containers.



AMCO No. 322 (Stick) is the same as No. 321 but in stick form for convenience in repairing areas not easily accessible. Ideal for overhead repairs, wire cables, etc. Three sticks per pound.

AMERICAN SOLDER & FLUX CO.
19th and Willard Streets, Philadelphia 40, Pa.
FLUX MANUFACTURERS SINCE 1910

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NOW AVAILABLE IN HANDY POLYVINYL TUBES

INDUSTRY'S LEADING PIPE THREAD COMPOUND

Get *Plastic Lead Seal in this new handy 4-oz. applicator tube. Quick-opening cap can't unscrew... no leaking at seams...blunt tools or dropping won't harm... ideal size for tool and service kits.

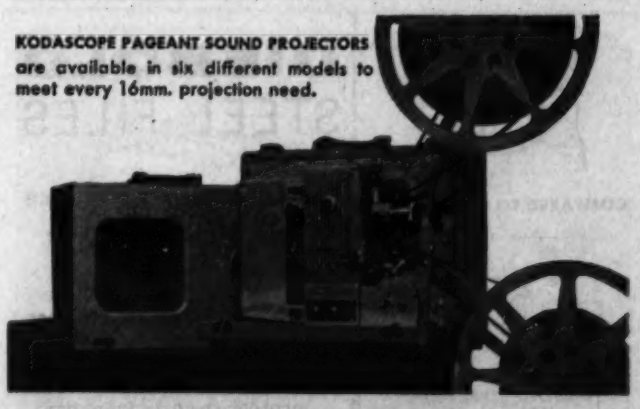
Use PLS for water, steam, gas, chemical refrigerant or petroleum services... pressures to 6000 psi., temperatures to 500°F. Seals permanently. Never hardens. Underwriters' approved.

Request Sample Tube. Better yet, send order for special 12-tube package. Act now.

JOHN CRANE CRANE PACKING COMPANY
1811 CUYLER AVE., CHICAGO 13, ILL.

▲ For more details circle NED-747 K5 on enclosed inquiry slip ▲

KODASCOPE PAGEANT SOUND PROJECTORS are available in six different models to meet every 16mm. projection need.



Put movies to work
with this trouble-free projector

Movies make almost every type of training or technical information easy to understand . . . easy to use . . . and easy to remember.

You know your movie shows will be successful when you use a Kodascope Pageant 16mm. Sound Projector. Faulty lubrication, the most common cause of projector breakdowns, is eliminated by the sound-Pageant's permanent pre-lubrication. Only the Pageant has this important feature.

Simple, guided threading makes the Pageant unusually easy to operate. Completely portable, projector and well-baffled 8-inch speaker are built into a single, handy, lightweight case.

WRITE FOR FREE PAGEANT CATALOG.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

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FOR MAXIMUM SAFETY

all over your plant use Safety GRIP-STRUT

Pat. Pending

the new basic material, all in one piece (including channels), not welded, riveted or expanded in steel or aluminum, in standard sizes and gauges. Safety GRIP-STRUT presents an open space, in a diamond pattern, in excess of 55% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.

Important Safety Features

- ★ Fire proof
- ★ Slip proof
- ★ Maximum strength
- ★ Minimum weight
- ★ Easy to stand on
- ★ Cool in summer — warm in winter

Big Economy Features

- ★ For balconies—no extra light needed below—no extra heat.
- ★ No extra supports necessary—channels are integral part of the material
- ★ No secondary sprinkler heads needed
- ★ Self-cleaning
- ★ Cut and installed like lumber by your own maintenance force
- ★ Low in original cost

Distributors in all principal cities. Consult yellow pages in phone book under "GRATING."

SEND FOR NEW CATALOG

GRIP-STRUT division
THE GLOBE COMPANY • *Manufacturers since 1914*
4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

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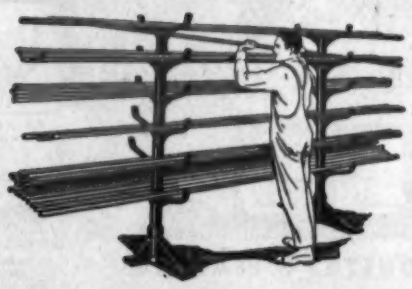
for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save mechanics' waiting time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

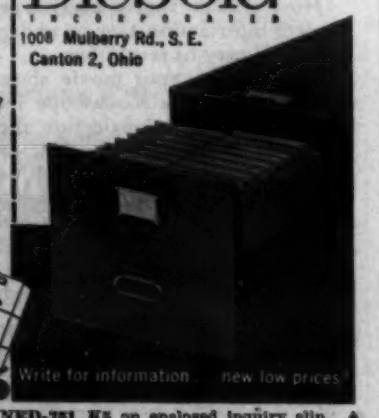
▲ For more details circle NED-750 K5 on enclosed inquiry slip ▲

DIEBOLD STEEL FILES

for fast easy reference
for lower cost storage

You can't afford cardboard . . . now that Safe-T-Stak steel storage files cost the same or less. Diebold steel files save up to 50% of space . . . eliminate erection and replacement costs . . . protect records from dust, dampness and vermin.

Diebold INCORPORATED
1008 Mulberry Rd., S. E.
Canton 2, Ohio



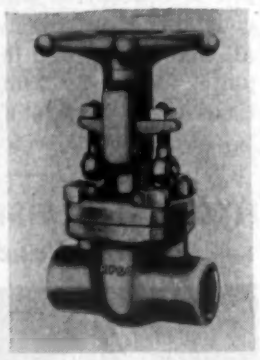
▲ For more details circle NED-751 K5 on enclosed inquiry slip ▲

VARIABLE PITCH SHEAVES
accommodate various shaft sizes

Improved Maxi-Pich variable pitch V-belt sheaves now feature maximum pitch variation for each commercial size V-belt, plus interchangeable tapered bushings for various shaft sizes of the prime mover. Sheaves are available with stationary control which permits pitch diameter to be adjusted only while machine is inoperative, or motion control for adjustment while in operation. A sections with two to six grooves have pitch range from 3.5 to 8.0 in.; B sections, two to eight grooves, have pitch range from 4.0 to 9.9 in.; C sections, two to eight grooves, provide range from 8.4 to 15.4 in.; and D sections with three to ten grooves afford pitch range from 12 to 17 in. Made by **V-Belt Engineering Co.**, Box 9492 N, Richmond 28, Va.

▲ For more details circle NED-752 K5 on enclosed inquiry slip ▲

GATE VALVES
threaded or welded ends



Improvements made in redesigned line of forged steel gate valves include stainless steel eyebolts, nuts and follower, new stuffing box, sturdier gland and smooth operating stem that cannot damage packing during assembly. Used in petrochemical, power and process piping, valves are made in sizes from ¼ to 2 in. with either threaded or welded ends. A stainless steel wedge, heat treated to 500 bhn and hard chrome plated stainless seat rings resist seizing, galling and abrasive wear. Stuffing box packing consists of molded asbestos, wire reinforced and mica lubricated. Made by **American Chain & Cable Co.**, R-P & C Valve Div., Reading, Pa.

▲ For more details circle NED-753 K5 on enclosed inquiry slip ▲

FLOOR SWEEPER
powered by LP-gas engine

Powered by an LP-gas engine, model 75-LP floor sweeper is intended for areas where gasoline exhaust is objectionable. At speeds of 2 to 6 mph, sweeper covers a 48-in. path with a side-brush and has capacity of 100,000 sq ft or more per hour. Main brush rotates in vacuum-equipped, dust-sealed compartment. Machine reverses instantly, drives like a car and turns in a 5-ft radius. Dirt hopper holds over 500 lb and can be tilted and dumped in 30 seconds. Sweeper will run 12 hours on one cylinder of LP-gas. Made by **G. H. Tennant Co.**, 2516 N. Second St., Minneapolis 11, Minn.

▲ For more details circle NED-754 K5 on enclosed inquiry slip ▲

TAP HOLDERS
for multiple spindle machine use

JT line of lock and eject collet type compression and tension tap holders compensates for variations between the feed of the spindle and the lead of the

tap. They are particularly usable in multiple spindle machines which take adjustable adapter shank tools. Taps of various pitches can be used without making costly changes on multiple spindle tapping operations. Compression holder is used when the feed is greater than the tap lead, and the tension holder serves when the spindle feed is less than the tap lead. Taps will run true within 0.002-in. Made by **Scully-Jones & Co.**, 1952 S. Rockwell St., Chicago 8, Ill.

▲ For more details circle NED-755 K5 on enclosed inquiry slip ▲

Try the MODERN

SAFETY DRILL TABLE

For Faster, SAFER Work in Your Maintenance Department

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made specifications on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.

In 6 sizes from 8" to 28" dia. We guarantee each Safety Drill Table will save its cost on labor alone in 6 months, to say nothing of plant down time when vital maintenance is delayed even a few minutes.

FREE TRIAL OFFER

WRITE FOR FREE FOLDER

Shows many typical set-ups and use on radial drills. Complete

MODERN MACHINE TOOL CO.
Jackson, Michigan

▲ For more details circle NED-756 K5 on enclosed inquiry slip ▲

Make All Your Low Pressure Hose Lines from this NEW Aeroquip Kit

Durable ALL-STEEL kit 5144 speeds hose line replacement, cuts costs, reduces inventory. With remarkable new Aeroquip SOCKETLESS fittings and 1525 hose, fuel, oil, water, and air lines can be made and installed fast on all kinds of industrial and mobile equipment. Kit measures 12½" x 12½" x 6½". See your Yellow Page Directory for distributor's name, or write us.

Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

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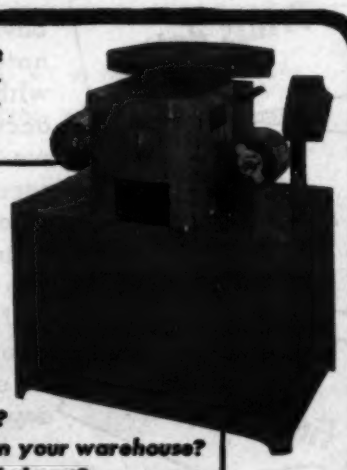
PAK-RAPID equipment eliminates old-fashioned, manual packaging operations.



DO YOU

1. *Buy prefab bags?*
2. *Inventory them in your warehouse?*
3. *Print them at added cost?*
4. *Deliver them to the operation?*
5. *Open them by hand?*
6. *Hand fill them?*
7. *Seal them by hand?*
8. *Count them by hand?*

ONE PAK-RAPID MACHINE ELIMINATES THESE OLD-FASHIONED METHODS, DOES THESE JOBS AUTOMATICALLY IN A ONCE THROUGH OPERATION.

In addition, it gives you: versatility-efficiency-economy-simplicity. Get full details and new literature from your PAK-RAPID representative or, write us direct.

PAK-RAPID INC.
Incorporated 1945
Builders of Fine Packaging Machines
530 N. 21st Street Philadelphia 30, Pa.

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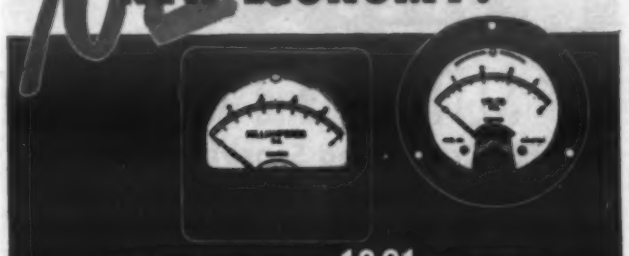
NEW

NEW DEPENDABILITY
NEW ECONOMY!



WESTON 1301 LINE
Cormag® PANEL INSTRUMENTS

The new line of 3½" panel instruments with self-shielded core-magnet mechanism—can be mounted on magnetic or nonmagnetic panels interchangeably—no magnetic intereffect when mounted close together. True Weston dependability—lowest overall cost.
Ask for literature and prices...
Weston Electrical Instrument Corporation, 614 Frelinghuysen Ave., Newark 5, N. J....
a Subsidiary of Daystrom, Incorporated.

WESTON Instruments

▲ For more details circle NED-759 K5 on enclosed inquiry slip ▲

Geophysical truck, protected with Vinyl Aluminum Coating by Plastic Coating Corporation, 4916 Kirby Drive, Houston, Texas. Approximately five gallons of aluminum coating were used on this piece of equipment.

Plastic Coating Corporation
protects this truck from corrosion with Vinyl Aluminum Coating

Trucks like this, carrying equipment used by geophysical companies working in extremely corrosive conditions all over the world, are protected with Vinyl Plastic Coating, pigmented with ALCOA Aluminum. Operating along the shoreline and through the swamps of Louisiana where corrosion is extremely severe, this truck was found to be in excellent condition after years of service. Its aluminum coating withstood constant exposure to salt water and hot sun.

Plastic Coating Corporation used the Vinylite plastic coating system; one Wash Primer, two aluminum V.A.G.H. intermediate coats, two body coats, and one aluminum Vinyl finish coat. This type of protective coating is being used on much transport equipment operating in highly corrosive atmospheres.

ALCOA does not make paint, but ALCOA Aluminum Pigments are used in more aluminum paints than any other brand. Special formulas have been developed by your paint manufacturer to solve individual problems. Paints made to these formulas actually cost less, last longer, give utmost protection against heat, cold, sun, rain, smoke and fumes.

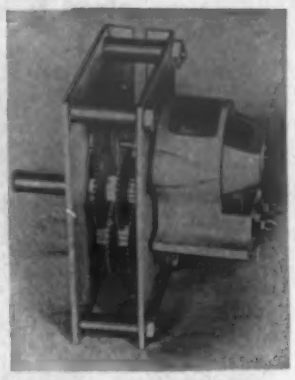
Write today for our two FREE booklets, *Painting With Aluminum* and *Aluminum Asphalt Roof Coatings Make Time Stand Still.* They're full of up-to-date information on aluminum paint and aluminum roof coatings.

ALUMINUM COMPANY OF AMERICA, PAINT SERVICE BUREAU, 1788-K Alcoa Building, Pittsburgh 19, Pennsylvania.

PIGMENTED WITH
ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

▲ For more details circle NED-760 K5 on enclosed inquiry slip ▲

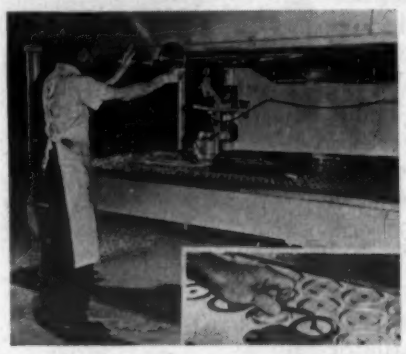
MOTOR & GEAR TRAIN operates on dry cells



High power and low speed is supplied by this motorized gear train which operates on dry cells or other batteries. Hi-Drive reversible motor, available in 1½ to 3 and 3 to 6-v ranges, has an Alnico permanent field magnet and a wound three-pole armature. Entire unit measures 3⅛ x 3 x 2⅛ in. Reduction is through stamped or powdered metal gears on shafts running in Oilite bearings. Motor speeds at no load, depending on type of brushes (bronze or carbon) and applied voltage, varies from 2000 to 10,000 rpm. Speed can be controlled by a small rheostat. Reduction is 662 to 1, bringing output speed down to 3 to 15 rpm. Made by **Wilson's of Cleveland,** Dept. ND, 425 Lakeside Ave. N. W., Cleveland 13, O.

▲ For more details circle NED-761 K5 on enclosed inquiry slip ▲

VACUUM CHUCK used on skin milling machine



About 1000 suction cups can be used to hold skin during milling operations with the Octopus Grip vacuum chuck pictured here on a skin milling machine. Upper chuck holds pattern; lower chuck holds material. Inset shows suction cups with removable rubber grommets. A screw in the center hold serves as shutoff valve. This allows any shape skin to be placed on chuck without complicated sealing-off of vacuum source. Chuck is fabricated from 921-T cast aluminum alloy and has 100 per cent stability under all temperature conditions. Made by **Pioneer Tool Engineering, Inc.,** Engineering Div., 1601 E. El Segundo Blvd., El Segundo, Calif.

▲ For more details circle NED-762 K5 on enclosed inquiry slip ▲

Specialty Steel Guide

Carpenter Steel Co.—Available to all steel users, 32-page illustrated "Guide to Specialty Steels" aids in matching the steel to the job so as to improve tooling, fabrication and product performance. Complete data are given on tool and die, stainless, silicon and high nickel, special purpose alloy, valve, heat-resisting and super alloy steels, as well as on pipe, tubing and fine wire specialties.

▲ For more details circle NED-763 K5 on enclosed inquiry slip ▲

VULCAN
ELECTRIC HEATING UNITS

FINNED STRIP

For use in blower type electric unit heaters, as ovens or space heaters in dryers, pump rooms, switch towers, etc.

From 10½" to 42½" overall
500 watts to 3250 watts 115 and 230 volts.

Steel sheath and fins (rust resisting).

For use where sheath temperature will not exceed 750° F.

VULCAN ELECTRIC COMPANY
DANVERS 7, MASS.

By the makers of Vulcan Electric Heating Units, Soldering Tools, Solder Pots, Glue Pots and Branding Irons.

See 8 page Vulcan catalog in Sweet's Product Design File for 1955.

▲ For more details circle NED-764 K5 on enclosed inquiry slip ▲

new midget dryer

Small, extremely compact, low cost, efficient, desiccant type automatic dryer that handles gas or compressed air. Specifically made for a wide variety of industrial and laboratory applications for drying small volumes of compressed gases.

write
get full details from

INDUSTROL CORPORATION
468 Westfield Ave., East Roselle Park, New Jersey

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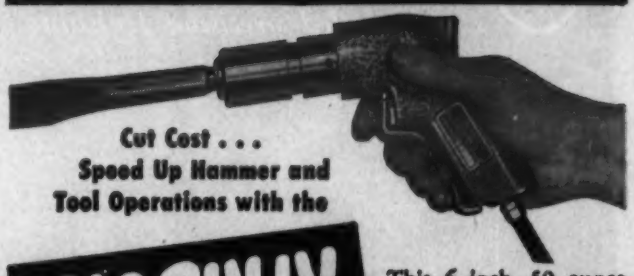
Replace Your Hammers with Air Power!



Cut Cost . . .
Speed Up Hammer and Tool Operations with the

BIG BULLY AIR HAMMER

This 6 inch, 50 ounce Big Bully has Superior's exclusive metering trigger which delivers 0 to 9000 blows per minute.

14 Tools Available for 100 Different Jobs

Each tool designed specifically for use with the Big Bully. Blanks available for use in making tools of your own design.

- Scaling Tool
- Routing Chisels
- Flat Chisel
- Peening Tool
- Finishing & Forming Tool
- Star Drills
- Oil Grooving Chisel
- Sheet Metal Cutter
- Panel Cutter
- Spoon Face Chisel
- Gouge
- Wood Chisel
- Wedge Driver
- Paint Scraper

Write for further information to . . .

SUPERIOR PNEUMATIC & MANUFACTURING, INC.

Main Office & Factory, 4758 Warner Rd., Cleveland 25, Ohio — West Coast Office, 15615 Arrow Highway, Azusa, California — Canadian Office, 347 Cannon Street, East, Hamilton, Ontario

▲ For more details circle NED-766 K5 on enclosed inquiry slip ▲

HARDNESS CONVERSION DATA OFFERED BY B&W

Approximate relation between hardness by various testing systems and tensile strength of carbon and alloy steels is detailed in Technical Data Card 183, yours for the asking. Write for your copy.

TA-5060(LM)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
General Offices, Beaver Falls, Pennsylvania
Plants and Products
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing
Milwaukee, Wis.—Seamless Tubing; Welded Stainless Steel Tubing; Seamless Welding Fittings

▲ For more details circle NED-767 K5 on enclosed inquiry slip ▲

NEW pocket size thickness gauge

ELCOMETER

Measures Non-Magnetic Coatings with ± 5% ± .0001" Accuracy

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other non-magnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case containing inner pocket for test strips. Weighs only 6 oz. Completely self-contained. Retail price: $68.00, F. O. B. Cleveland.

WRITE FOR ILLUSTRATED FOLDER

FERRO

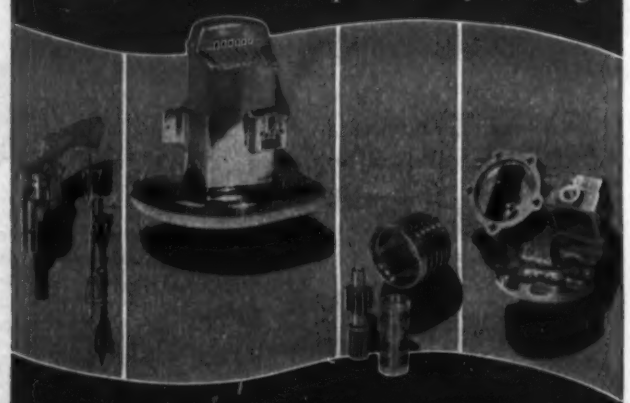
FERRO CORPORATION

4181 East 56th St. • Cleveland 5, Ohio

▲ For more details circle NED-768 K5 on enclosed inquiry slip ▲

ROTO FINISH

your new opportunity in controlled precision finishing



Roto-Finish processes are controlled precision finishing operations using low cost mass production techniques, which maintain exact tolerances on most any size or shape precision part with no significant dimensional changes. Roto-Finish speeds production, cuts maintenance expense, minimizes operational costs, yet produces top quality finishing results. Roto-Finish offers latest in controlled methods, materials and special purpose fixture equipment.

Write for catalog today! Ask about free Lab Testing Plan.

Roto-Finish COMPANY

3702 MILHAM ROAD, KALAMAZOO, MICH. P. O. Box 988 — Phone 3-5578

▲ For more details circle NED-769 K5 on enclosed inquiry slip ▲

NoDrip ...STOPS CONDENSATION DRIP

NoDRIP PREVENTS RUST —ANYONE CAN APPLY

NoDrip plastic coating is easily applied to tanks, containers, suction lines, vats, pipes, walls, ceilings, etc. NoDrip adheres to metal, concrete, brick, plaster. It forms a seamless 100% moisture-proof covering that is effective as soon as dry. Acid, alkali and brine resistant.

FREE... Interesting 32-page Handbook shows what NoDrip is and what it does. SEND COUPON TODAY

SEND NoDRIP HANDBOOK

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ADDRESS_____

CITY_____ STATE_____

J. W. MORTELL CO. • 526-J BURCH ST. • KANKAKEE, ILL.

TECHNICAL COATINGS SINCE 1895

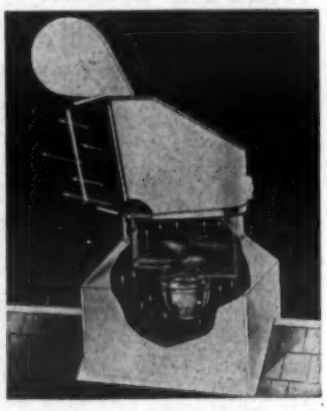
▲ For more details circle NED-770 K5 on enclosed inquiry slip ▲

VACUUM OVEN
temperature control improved

An hydraulic thermostat with sensitivity of ±0.5° C is one of the improvements incorporated in redesigned model 19 vacuum oven. Placed at top of chamber as protection against spillage is welded heater bank of low wattage density which reduces the hazard from volatiles. Oven has maximum operating temperature of 125° C. Working chamber of cast aluminum is now rectangular instead of cylindrical, and door with Pyrex window is hinged at the top. Oven weighs only 45 lb. Made by **Precision Scientific Co.**, 3735 W. Cortland Ave., Chicago 47, Ill.

▲ For more details circle NED-771 K5 on enclosed inquiry slip ▲

ROOF VENTILATOR
used with or without fan



Ventilation by wind suction, fan power and gravity are combined in this revolving head roof ventilator which always exhausts with the wind, never against it. Unit can be used with or without a 10-in. G-E fan which exhausts 700 cfm of air. Thermostatic fan control is optional. Temperature difference and wind on the ventilator head increase air removal. Head is balanced on a ball bearing pivot inside a cast iron housing. Made by **Clay Equipment Corp.**, 200 Flower St., Cedar Falls, Iowa.

▲ For more details circle NED-772 K5 on enclosed inquiry slip ▲

SWIVEL JOINTS
in ½ and ¾-in. sizes

Two swivel joints made in ½ and ¾-in. sizes include one with permanent clamp design for use on air, fuel and hydraulic lines where free swiveling action is required, and the controlled torque design shown. First Junior Joint No. 1 is designed to prevent hose kinking, while controlled torque model No. 2 affords advantage of quick positioning and locking of lines. Both are cast from Zamak No. 5 corrosion resistant alloy with high impact strength. Synthetic O-rings in joints will handle aromatic fluids, cutting oils, soluble oils, gasoline, kerosene, diesel oils, water and air. Clamps are cadmium-plated steel. Made by **Chiksan Co.**, 331 N. Pomona Ave., Brea, Calif.

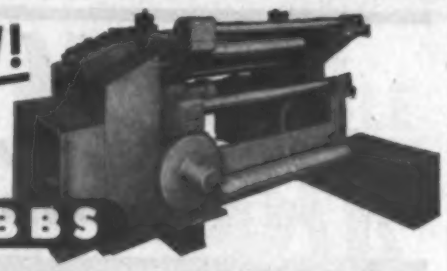
▲ For more details circle NED-773 K5 on enclosed inquiry slip ▲

STEEL DOCK PLATE
improved for easier positioning

Improved design enables handles and wheels of Rollway steel dock plate to be telescoped and rotated out of the way for easier movement and setting into working position. One man can perform the operation requiring no more effort than pushing a two-wheeled warehouse truck. Once plate is in position, handles are moved forward and down. This action lowers plate to floor and automatically raises rubber-tired wheels and folds them 90 degrees to a flat position. Raising handles up and back positions the wheels for rolling plate away again. Made by **Woodford Mfg. Co.**, 1627 Delaware Ave., Des Moines, Iowa.

▲ For more details circle NED-774 K5 on enclosed inquiry slip ▲

It's NEW!



HOBBS

40" SLITTER and REWINDER

For Converting Sensitized Film, Polyethylene, Acetate, Cellophane and Other Plastics

DESIGNED FOR MATERIALS NEEDING CONTROLLED TENSION IN HANDLING

This brand new machine was designed for modern production. It has rewind tension control, variable speed and acceleration controls, automatic web guiding, smooth acting, self-adjusting electric clutch drive. Gives accurate clean slit edges with fast, positive, adjustable shear type cutters. Automatic vacuum system instantly removes trim.

Bring your slitting operations up-to-date and the cost down. Write TODAY for full information about the new HOBBS 40" Slitter and Rewinder.

HOBBS MANUFACTURING CO.

41 Salisbury St., Worcester 5, Mass.

New York Office at 132 Nassau St.

Chicago Office at 549 W. Washington Blvd.

Winders • Hand & Power Shears • Die Presses • Slitters • Corner Cutters

▲ For more details circle NED-775 K5 on enclosed inquiry slip ▲

Large process plant saves hours in locating grounds with the

BRUNT FAULTFINDER

"After a recent storm, the ground lights indicated a ground which could have been in one of several buildings. The ground was located in 30 minutes (using the BRUNT FAULTFINDER) in a feeder line junction box, which had become wet during the storm". So writes Mr. Lionel Cole, electrical supervisor of Westvaco Chemical Div. of Food Machinery & Chemical Corporation, Carteret, N. J. He adds that previously, "—we located grounds by isolation and due to our continuous operation, this method took several hours, sometimes even days".

Equipment shutdowns while searching for power line grounds are costly and *unnecessary*—if you have a Brunt Faultfinder to eliminate guesswork.

The Brunt Faultfinder is a combination ground detector and fault locator that can be operated by one man. Locates grounds on normally ungrounded circuits up to 600 volts a.c. or d.c., without shutting down equipment. There are no sensitive meters needing constant adjustment. Can be used in dark or noisy locations. Traces overhead lines without climbing. Priced from $400 up, express prepaid.

A FEW USERS OF THE BRUNT FAULTFINDER ARE:

American Cyanamid Co.
Bakelite Co.
Cities Service Oil Co.
Ford Motor Co.
General Electric Co.
Gillette Safety Razor Co.
International Paper Co.
Johns-Manville
Procter and Gamble Co.
Raytheon Mfg. Co.
Socony-Vacuum Oil Co.
Swift and Company

Order direct today or send for descriptive booklet.

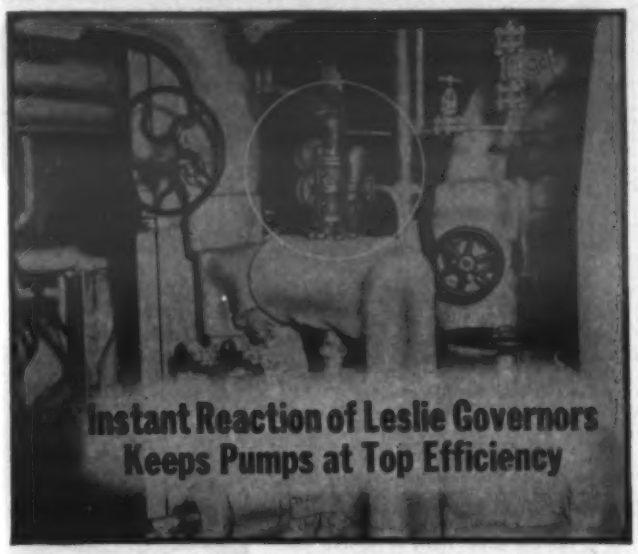
PARR

MANUFACTURING CORP.

40 AUSTIN ST.

NEWARK 5, N. J.

▲ For more details circle NED-776 K5 on enclosed inquiry slip ▲



For nearly 30 years Leslie Pump Pressure Regulators have rendered performance comparable to instrument control—fast response to variations in discharge pressure.

Selection from more than 60 classes of pump regulators and controllers, for reciprocating, turbine-driven and motor-driven pumps is made easy with Engineering Data Bulletin 5306. It covers regulators handling discharge pressures as low as 5 psi and up to 2000 psi.

SEND FOR YOUR BULLETIN TODAY

PUMP PRESSURE REGULATORS

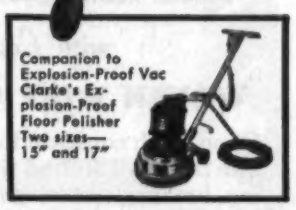
LESLIE TRADE MARK

LESLIE CO., 227 Grant Avenue, Lyndhurst, New Jersey

▲ For more details circle NED-777 K5 on enclosed inquiry slip ▲

NEW CLARKE EXPLOSION-PROOF WET-DRY VACUUM CLEANER FOR HAZARDOUS LOCATION USE

Speed up your cleaning in hazardous locations and cut costs in half! This *new* Clarke heavy-duty portable vacuum cleaner is listed by Underwriters' Laboratories for safe use in atmospheres containing explosive vapors (Class I, Group D), or atmospheres containing dust (Class II, Group G). Special job designed attachments make this new Clarke Vac as versatile as a standard unit. It picks up wet or dry—cleans anything from floor to ceiling and does every job better, faster and with *complete safety*. Write today for further details.



Clarke SANDING MACHINE COMPANY
1022 East Clay Ave., Muskegon, Michigan

Authorized Sales Representatives and Service Branches in Principal Cities. In Canada: G. H. Wood & Co., Ltd., P.O. Box 34, Toronto 14, Ont.

▲ For more details circle NED-778 K5 on enclosed inquiry slip ▲

CATALYTIC EXHAUST PURIFIER can be used with leaded as well as with unleaded fuels

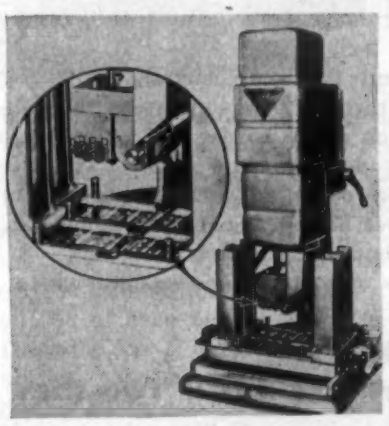
Fork trucks, power sweepers and other in-plant vehicles can be operated safely in enclosed plant areas if equipped with the Oxy-Muffler catalytic exhaust purifier, usable on leaded and unleaded fuels. Designed to replace vehicle's acoustical muffler, the Oxy-Muffler is quickly installed without carburetor changes or adjustments.

Inside purifier are horizontal chambers containing beds of catalyst pellets. Exhaust gases enter muffler through inlet section in which a venturi sucks in filtered air to support combustion of exhaust contaminants. Hot gases flow down through pellet beds contacting the catalytic agent. They are burned by chemical action to safe, odorless exhaust of carbon dioxide and water vapor.

Tests indicate muffler will provide up to 90 per cent clean-up for about 600 operating hours. Pellets can be quickly replaced when muffler efficiency drops below desired level. Three sizes are offered for engines with piston displacements from 0-75, 76-150 and 151-230 cu in. Made by **Oxy-Catalyst, Inc.,** 115A S. Conestoga Rd., Wayne, Pa.

▲ For more details circle NED-780 K5 on enclosed inquiry slip ▲

NAMEPLATE MARKER hand and air operated models



Consecutive serial numbers as well as interchangeable legends on two or more bosses can be marked by the No. 52 Tag Marker, model MS. This nameplate marker is available for hand lever operation (shown) or with air operated feeding mechanisms. When used for serial numbering, a restacking magazine is provided so that the plates restack themselves in numerical sequence. Speeds from 2000 to 5000 plates per hour depend on size of plates to be marked. Machine will mark varying sizes of etched plates. Fixture and ram adapter are adjustable to mark both plates independently. Made by **Cadillac Stamp Co.,** Dept. NE, 17315 Ryan Rd., Detroit 12, Mich.

▲ For more details circle NED-781 K5 on enclosed inquiry slip ▲

DEMAGNETIZING UNIT for parts and tools

- A.C. CURRENT
- TABLE-TYPE
- HIGHEST QUALITY

All units are supplied with OFF-ON switches, A.C. indicating pilot lights and a 6-foot heavy-duty, rubber-covered cord with plug. When ordering, specify A.C. voltage.

PROMPT SHIPMENT — ORDER TODAY, DEPT. ND-105

Model	Depth	Width	Height	Weight	Price
A1-3	7"	3¾"	4"	15 lbs.	$33.00
A1-4	6"	11½"	4¾"	33 lbs.	50.00
A1-6*	13"	9"	7"	100 lbs.	130.00
A2-6*	13"	18"	7"	190 lbs.	182.00

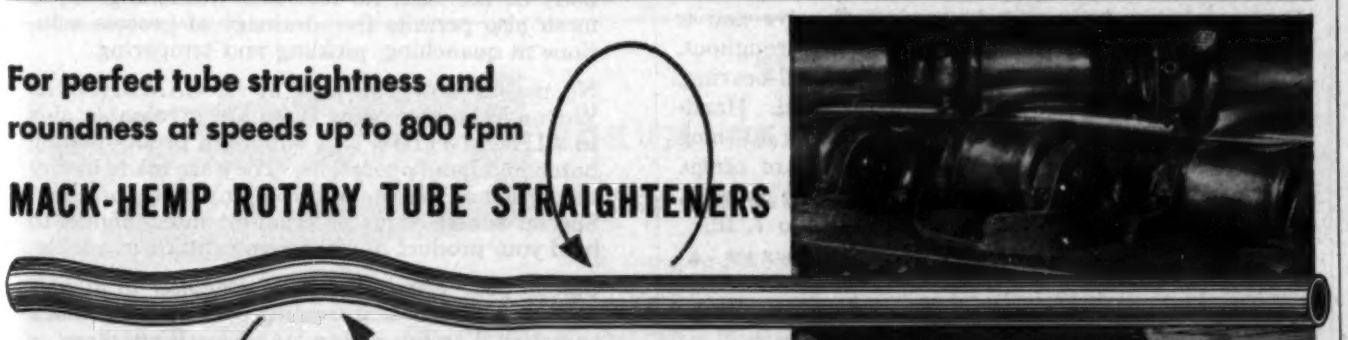
* Stand extra $8.00 and $11.00
"Magna-Vise" — Sine Chucks

MAGNA-LOCK, INCORPORATED
BIG RAPIDS, MICHIGAN, U.S.A.

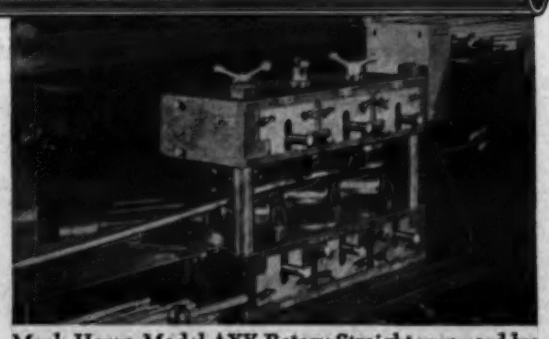
▲ For more details circle NED-782 K5 on enclosed inquiry slip ▲

For perfect tube straightness and roundness at speeds up to 800 fpm

MACK-HEMP ROTARY TUBE STRAIGHTENERS



- Rugged, heavy-duty construction.
- Models for all O.D.'s from 0.050" to 16" of ferrous and non-ferrous pipe and tube.
- Speeds up to 800 fpm, depending on size and type of tube.
- All rolls driven—no guides—surface of straightened tubing is unmarked.
- Straightened tubing shows perfect straightness and true roundness of best rotary straightening practice.
- Quickly re-set for different diameters—operators easily trained.



Mack-Hemp Model AXY Rotary Straightener used by a leading non-ferrous tube redraw mill straightens 5/16" to 1" O.D. copper and brass tube at 400 fpm.

Write today for free 24-page bulletin, "How To Straighten Pipe and Tube"

MACKINTOSH-HEMPHILL
Division of E. W. BLISS Company, Pittsburgh and Midland, Pa.
Makers of the rolls with the Striped Red Wabblers

cast mill rolls • Johnston cinder pots • rotary tube straighteners • Y-type cold mills
heavy-duty lathes • steel and special alloy castings • end-thrust bearings

MACKINTOSH-HEMPHILL DIVISION PITTSBURGH U.S.A. BLISS

▲ For more details circle NED-779 K5 on enclosed inquiry slip ▲

Peeling Pitch, or

Shifting Sand

PAYLOADER® means profitable material handling

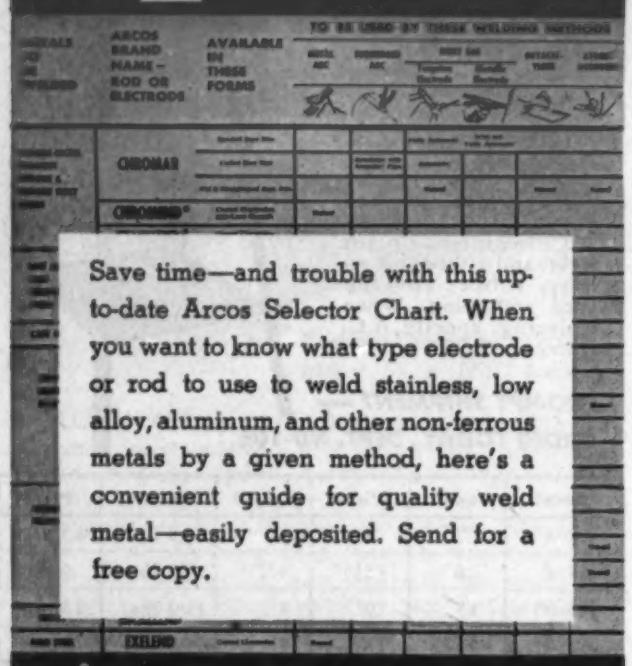
Producers of pitch run the hot liquid product into large "pans" to depths of 8-12 inches and let it solidify. Removing this hardened pitch from the pans was a slow, laborious job until the new Model HA "PAYLOADER" entered the picture. This compact tractor-shovel with its great digging power tears right in, breaks and scoops up full bucket loads of the pitch and carries and dumps them into waiting boxcars.

The "PAYLOADER" is solving such bulk material handling problems every day for industry. If *you* have handling problems involving pitch, peanuts, coal, clay, sand or *any* bulk materials, you should call in your "PAYLOADER" Distributor. He has a size and model from 14 cu. ft. to 2½ cu. yd. bucket capacity to fit your needs — whether indoors or outdoors. The Frank G. Hough Co., 746 Sunnyside Avenue, Libertyville, Illinois.

PAYLOADER® MANUFACTURED BY THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.

▲ For more details circle NED-783 K5 on enclosed inquiry slip ▲

NEW Filler Metal Selector Chart
FOR ALL WELDING METHODS



Save time—and trouble with this up-to-date Arcos Selector Chart. When you want to know what type electrode or rod to use to weld stainless, low alloy, aluminum, and other non-ferrous metals by a given method, here's a convenient guide for quality weld metal—easily deposited. Send for a free copy.

ARCOS CORPORATION
1500 South 50th Street, Philadelphia 43, Pa.

▲ For more details circle NED-784 K5 on enclosed inquiry slip ▲

A MAN'S LIFE May Depend On It!

DILLON DYNAMOMETERS
test safety equipment

One of many uses for this versatile instrument. Here a DILLON Dynamometer is rigged to record the test load applied to a window washer's belt. Mounting is to an anchor plate at bottom and a wooden drum at top. An overhead hoist applies force to the belt placed around the drum. Amount of this tension load is indicated by the Dynamometer — belt elongation is shown on a steel tape which moves in proportion to the stretch.

Over 100 *other* ways in which the DILLON Dynamometer can serve *you*. Light, compact, rugged. 13 different capacities from 0-500 lbs. up to 0-100,000 lbs. Modestly priced! For tensile, torque, compression.

Write today for profusely illustrated brochure and prices. Filled with time and money saving ideas! No obligation.

W. C. DILLON & CO., Inc.
14628NE Keswick St., Van Nuys, Calif. (SUBURB OF LOS ANGELES)

▲ For more details circle NED-785 K5 on enclosed inquiry slip ▲

WHAT "Buffalo" PROPELLER FANS OFFER YOU—

- Ease of installation—complete packages with motor drive
- Biggest range of sizes ever — 8" to 144" wheels (550 cfm to 250,000 cfm)
- Suitability for many new applications once requiring costlier fans
- Full choice of wheel designs and construction features to meet widely varying needs
- Performance that meets test codes of A.S.H.V.E., A.F.M., P.F.M.A. and U. S. Commercial Standard CS-178.
- *The "Buffalo" Q Factor—the built-in Quality that provides trouble-free satisfaction and long life.*

WRITE FOR BULLETIN FM-1234 on your company letterhead. It's an eye-opening report on the many new uses of this expanded, improved new line of fans!

BUFFALO FORGE COMPANY
215 Mortimer St., Buffalo, N. Y.
PUBLISHERS OF "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities
INDUSTRIAL EXHAUSTERS • BELTED VENT SETS
PROPELLER FANS • "E" BLOWERS-EXHAUSTERS

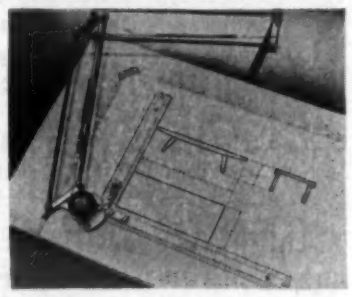
▲ For more details circle NED-788 K5 on enclosed inquiry slip ▲

SLIP SOCKET
for solderless lead connections

Solderless connecting of diodes, transistors and other components into printed and other types of circuits is possible with the Micro-Pin socket, a spring-backed plug-in socket of copper alloy. It is press-fitted and dip-soldered into the circuit board. Receiving hole can be either punched or drilled. Spring is flexible enough to withstand repetitive plug-in-and-out operations and can be designed to cover military specifications on shock and vibration. Presently available slip sockets accommodate leads of 0.016-in. diameter, with sizes for leads of 0.175 and 0.022-in. to be offered soon. Made by **Techron, Inc.**, 256 Friend St., Boston, Mass.

▲ For more details circle NED-787 K5 on enclosed inquiry slip ▲

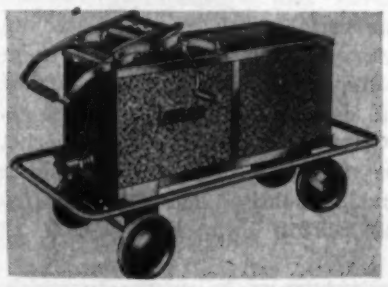
DRAFTING MACHINE
instrument is Swedish made



This Swedish - made professional drafting machine can be used for drawing plans or scale drawings, for general drafting and commercial art work, or any graphic operation requiring a T-square and triangle. Instrument is constructed of cold-drawn steel tubing and machined steel and plastic parts. It sets and holds any angle and its complement. Protractor head reads from 90 through 0 to 45 degrees, with automatic quick-set lock every 15 degrees. Head also locks easily at any desired angle between the 15-degree stops. Price, complete with all-purpose or architectural scales, is $37.50. Sold by **Walpole Co.**, Dept. NQ, 419 Boylston St., Boston 16, Mass.

▲ For more details circle NED-788 K5 on enclosed inquiry slip ▲

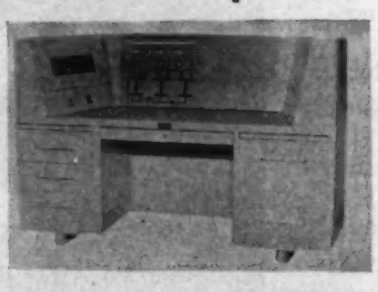
MOPPING TANK
two-compartment unit in two sizes



This two-compartment Low-Boy mopping tank is offered in 30 and 60-gal total capacities which are 26 and 31 in. high, respectively. Low height of tank minimizes damage to fixtures from swinging mops in low ceiling areas. Each tank has leakproof drain shutoff valve and is made of heavy galvanized steel, welded throughout. Chassis is angle and steel construction. Ball-bearing, rubber-tired wheels are cadmium plated steel. Hand-pressure type wringer is adjustable for all mop weights and can be installed on either end of tanks. Foot-pressure wringers are available. Made by **S. C. Lawlor & Co.**, 131 N. Aberdeen St., Chicago 7, Ill.

▲ For more details circle NED-789 K5 on enclosed inquiry slip ▲

PANEL TYPE ANNUNCIATOR
supervises processes, flow patterns



Graphic panel type lamp annunciator for supervising automatic processes, flow patterns, etc., can be supplied for mounting in a surface or flush cabinet, or on a slanting console, with or without a desk. The GP annunciator is built in one of two ways: having non-lighted diagrams with raised strips in various colors and indicating lights at desired positions; or using strips of translucent material with the light source behind the panel producing light spots at the desired point. Lights can be made to flash or sound an alarm. Made by **H. R. Kirkland Co.**, 8010 King St., Morristown, N. J.

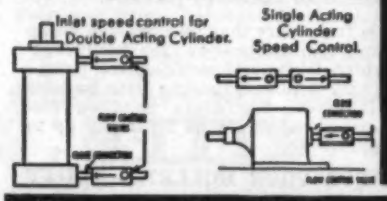
▲ For more details circle NED-790 K5 on enclosed inquiry slip ▲

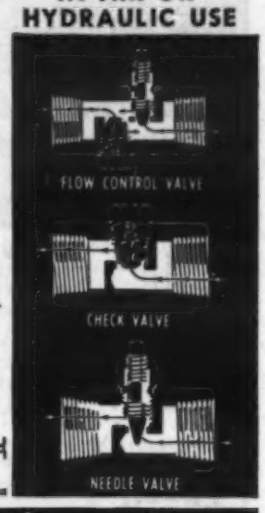
Get Easier, More Accurate Cylinder Speed Control with Pneu-Trol VALVES IN AIR OR HYDRAULIC USE

2000 and 5000 (steel) P.S.I.

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — 1/8" to 3/4". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

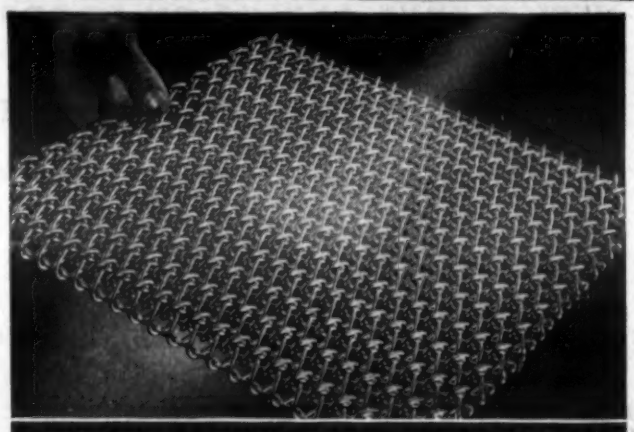
Write for Illustrated Circular and Price List.





Pneu-Trol Devices, Inc.
1432 N. Keating Ave., Chicago 51, Ill.

▲ For more details circle NED-791 K5 on enclosed inquiry slip ▲



FREE CIRCULATION!

means continuous, low-cost heat treating with *Cambridge* WOVEN WIRE CONVEYOR BELTS

Open mesh construction lets heat and gases circulate freely all around the work for uniform annealing, brazing, sintering at controlled rates of speed. Moving belt eliminates batch handling, cuts costs, provides continuous production.

All-metal Cambridge Woven Wire Conveyor Belts are impervious to damage from constant operation at temperatures up to 2100° F . . . have no seams, lacers or fasteners to wear more rapidly than the body of the belt, no localized weakening. Open mesh also permits free drainage of process solutions in quenching, pickling and tempering.

No matter how you look at it, CAMBRIDGE Woven Wire Conveyor Belts are invaluable aids to AUTOMATION . . . eliminate profit-stealing batch and hand operations. They are made in any size, mesh or weave, and from any metal or alloy. Special raised edges or cross-mounted flights to hold your product during movement are available.

Call in your Cambridge Field Engineer to discuss how you can cut heat treating costs by continuous operation. You can rely on his advice. Write direct or look under "BELTING, Mechanical" in your classified telephone book.

ASK FOR FREE 130-Page REFERENCE MANUAL . . . illustrating and describing woven wire conveyor belts. Gives mesh specifications . . . design information . . . and metallurgical data.

ANNEALING BRASS PARTS—Process atmosphere circulates freely through open mesh of Cambridge belt and around small or large parts.

The Cambridge Wire Cloth Co.
WIRE CLOTH · METAL CONVEYOR BELTS · SPECIAL METAL FABRICATIONS
DEPARTMENT C, CAMBRIDGE 10, MARYLAND
OFFICES IN PRINCIPAL INDUSTRIAL CITIES

▲ For more details circle NED-792 K5 on enclosed inquiry slip ▲

KEEP WORK RECORDS CLEAN AND NEAT

Ideal for
SHOP ORDERS
JOB TICKETS
COST DATA
WORK CHARTS
BLUE PRINTS
CARDS & PASSES
INSPECTION CHARTS
MACHINE RECORDS
INSTRUCTION DATA, etc.

Crystal clear Ful-Vu plastic holders give positive protection against dirt, smudges, grime and damage. New "easy slide" design makes it easy to insert or remove forms from holders. Dozens of standard types. Specials to any shape or size. Write for catalog and sample of E-Z Slide holder.

PROTECTS Ful-Vu GLORIFIES SYSTEMS OF DISPLAY

COOKS' Inc., Blackwood, N. J.
IN CANADA: Preston-Noelting, Ltd., Stratford

▲ For more details circle NED-793 K5 on enclosed inquiry slip ▲

the Solution to Your Big Problem is often A LITTLE DIFFERENT SET SCREW

for REGULAR Set Screws

SETKO Socket and Slotted SET SCREWS

For the past 20 years, we have furnished billions of set screws to satisfy the requirements of over 1300 different manufacturers. If size, special head or point, price or delivery are your problems, send for our Catalog. It illustrates and describes set screws, headless or with various type heads and points in all materials.

for SPECIAL Set Screws

For difficult or unusual applications Setko has originated special set screws such as Hopper-Fed, Self-Tapping, Pivot-Lok, and many others as well as the famous Zip-Grip* and Nu-Cup.* Write us your special set screw problem and we will suggest the set screw best suited for it, and send test samples without cost or obligation.

*Pat. Pend.

Write for special bulletins on the type set screw in which you are interested and ask how you can get the Setko Jewel Case of Set Screw Ideas.

Set Screw & Mfg. Co.
130 Main St. Bartlett, Ill. (Chicago suburb)

We specialize in Solving Puzzling Set Screw Problems.

▲ For more details circle NED-794 K5 on enclosed inquiry slip ▲

WIDE BAND AMPLIFIER
has two fixed voltage gains

Circuit used in model 854A wide band amplifier introduces distortion of less than 1 per cent when operating into recommended loads. Instrument provides a choice of two fixed voltage gains of 10 and 100 times, over the frequency range of 10 cps to 1 megacycle per second. It is usable to higher frequencies with some slight sacrifice in uniformity of response. Equivalent input noise is 20 microvolts on the 100 times gain setting and 80 microvolts with a gain of 10. Output voltage is maximum of 10 v into a minimum load of 3000 ohms. Made by **Beckman Instruments, Inc.**, Shasta Div., Dept. S-1, Box 296, Station A, Richmond, Calif.

▲ For more details circle NED-796 K5 on enclosed inquiry slip ▲

SMALL PARTS STORAGE WALL
stacked nests of drawers form walls when installed in variety of ways

Nests of drawers that can be stacked together to form a self-supporting partition for office or shop comprise the Hallowell storage wall for such small items as drills, gages, test specimens, file cards and small parts. The storage wall can also be erected against a building wall, installed underneath or above shop work benches or inserted in standard shelving and counter units.

Basic units of the system are steel drawer cases measuring 33¾ in. wide and 10½ in. high. Cases are 11¼ or 17¼ in. deep and accommodate three or four tiers of drawers. They are stacked and bolted on top of each other, side by side or back to back. Drawers are 4, 5¼ and 8 in. wide and have label holders. Cadmium plated steel drawer dividers are adjustable on 1-in. centers. Made by **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

▲ For more details circle NED-797 K5 on enclosed inquiry slip ▲

Right Angle Speed Reducers

Western Gear Corp.—Information valuable to users and designers of power transmission equipment is contained in bulletin 5503 on spiral bevel-helical gear type speed reducers. These right angle reducers are available in wide range of horsepowers and ratios for any industrial or commerical application.

▲ For more details circle NED-798 K5 on enclosed inquiry slip ▲

Call for Lindberg Red Cap!

A COMPLETE LINE OF AIR & HYDRAULIC CYLINDERS

Here is what to expect in a Lindberg RED CAP:
A rugged, dependable, long service cylinder that will do the job month in and month out. RED CAP identifies the famous line of Lindberg air and hydraulic cylinders, now made by Teer-Wickwire. These fine products are backed by expert engineering, made in a new plant equipped with latest type production machines, staffed by men schooled in precision work.

low pressure Air Cylinders
For 150 p.s.i. maximum pressure. Bores 2" through 12" diameter.

medium pressure Hydraulic Cylinders
For 1500 p.s.i. maximum pressure. Ten standard bore sizes, 2" through 8"

heavy-duty, mill type Air Cylinders
For 250 p.s.i. maximum pressure. Thirteen bore sizes from 3" through 24".

heavy-duty Hydraulic Cylinders
For 3000 p.s.i. maximum pressure. Ten standard bore sizes from 2" through 8".

COMING SOON!

NEW SQUARE HEAD TYPE CYLINDERS
Complete range of sizes and mountings.

LINDBERG AIR AND HYDRAULIC DIVISION, TEER-WICKWIRE & CO.
JACKSON, MICHIGAN

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Here's the Low Cost way to Pump High Viscosity Materials...

Install Kinney Model SD Rotating Plunger Pumps. Rugged, simple in construction . . . without valves, blades, springs, or vanes . . . the Kinney SD gives you maintenance-free performance, even while pumping the most difficult viscous materials.

The Kinney SD Pump acts as a meter, too. Due to its unusually high volumetric efficiency, this pump is often used to meter and proportion fixed amounts of viscous materials and components.

Kinney SD Pumps are available in capacities ranging from 2 GPM to 3,000 GPM . . . steam jacketed in most sizes.

See us at Booth 333-335-339 at the Chemical Show.

Kinney

KINNEY MFG. DIVISION
THE NEW YORK AIR BRAKE COMPANY
3612 WASHINGTON STREET • BOSTON 30 • MASS.
INTERNATIONAL SALES OFFICE, 90 WEST ST., NEW YORK 6, N.Y.

Please send Bulletin L51 describing the complete line of Kinney Liquid Pumps.

Name .....
Company .....
Street .....
City ..... State .....

▲ For more details circle NED-800 K5 on enclosed inquiry slip ▲

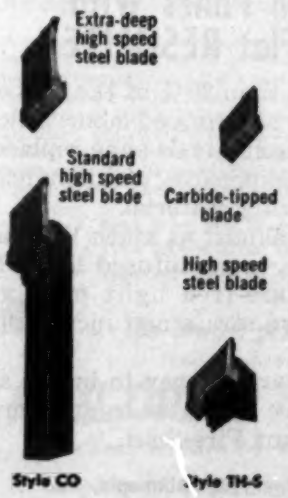
Flexibility

The Keynote of BOKUM RAPIDOR TURNING TOOLS for cutting off and threading

In a recent advertisement, we described the features of Bokum Rapidor turning tools for roughing, semi-finishing and finishing. Here is the remainder of the Rapidor line: tools for cutting off and threading.

They feature interchangeable blades—a fact which guarantees extra-long tool life. The unique clamping design of the blade and holder makes the tool rigid, eliminates chatter.

Other applications of Rapidor tools feature cutters for turning forms on the shoulders of a shaft, and radius tracer tools. Angular chip breakers, designed to remove chips away from the operator, can be furnished.



Write today for Catalog 454 for a complete description of Rapidor Tools.

1. Long tool life; blades only need be replaced.
2. One holder for all lathe operations; high speed steel and carbide-tipped blades available.
3. Cutting, clearance angles are built into the cutter; constant clearance throughout life of tool.
4. Shape of cross section remains constant.
5. Resharpen top face only.
6. No set-up problems.
7. Rigid, large chip removal—cool cutting action.

TRADE MARK REG. U. S. PAT. OFF.

BOKUM TOOL CO. 14775 Wildemere Ave., Detroit 38, Mich.

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REPAIR CONCRETE FLOORS

AND USE THEM IN 45 MINUTES

WITH **Kwik-Roc!**

Now you can repair cracks and holes in concrete floors while the plant is out to lunch. Use KWIK-ROC. It makes a floor patch that sets to rocklike hardness within 45 minutes of application. No need to hold up or detour plant traffic. When lunch is over it's all ready to use and abuse. Write for prices and detailed information.

A Subsidiary of Sun Chemical Corporation

A. C. Horn Co., Inc.

Dept. HS-1068, Long Island City 1, N. Y.

DIVISIONS OF SUN CHEMICAL CORPORATION

HORN • HUDSON • WILLEY (paints, maintenance and construction materials, industrial coatings) • WARWICK (textile and industrial chemicals) • WARWICK WAX (refiners of specialty waxes) • RUTHERFORD (lithographic equipment) • SUN SUPPLY (lithographic supplies) • GENERAL PRINTING INK (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • MORRILL (news inks) • and ELECTRO-TECHNICAL PRODUCTS (coatings and plastics)

▲ For more details circle NED-804 K5 on enclosed inquiry slip ▲

Toolroom Favorite:

CONTINENTAL COUNTERBORE SETS

Set No. 1 for Counterboring, Spot-facing, and Countersinking.

CTW

Save time—save money with this wide variety of counterbores, countersinks and pilots, compactly boxed. Continental's Indestructible Drive won't stick, won't break, easily hand-detachable. THREE SETS AVAILABLE, for large or small toolrooms. Order from your local Ex-Cell-O representative—or write to Continental for catalog.

CONTINENTAL TOOL WORKS

Division of Ex-Cell-O Corporation

Detroit 32, Michigan

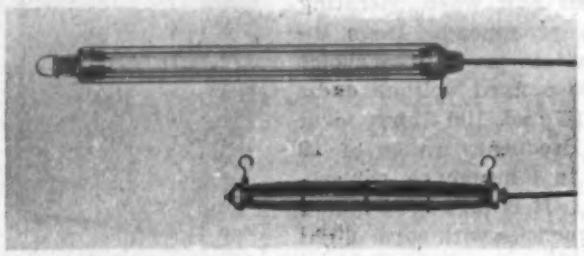
54-11

▲ For more details circle NED-802 K5 on enclosed inquiry slip ▲

▲ For more details circle NED-803 K5 on enclosed inquiry slip ▲

PORTABLE TROUBLE LAMPS
fluorescent units give ample light

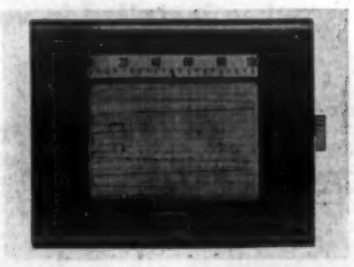
Illumination for hard-to-reach areas and troublesome "dark spots" in industrial plants is provided by this line of portable fluorescent lamps. Glarefree light



can be directed where required with these cool, easy to handle, sturdy units. Latest additions to line include 15 and 30-w vapor-tight fluorescent units which can be used safely for inspection, servicing and other operations. Made by **Day-Ray Products, Inc.**, Dept. NE, 1133 Mission St., South Pasadena, Calif.

▲ For more details circle NED-804 K5 on enclosed inquiry slip ▲

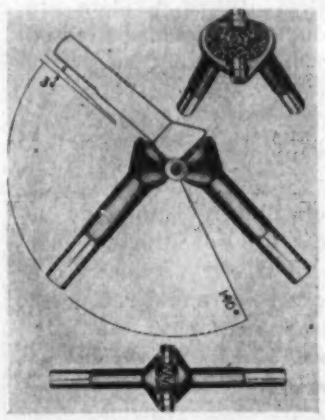
RECORDING POTENTIOMETER
pen travels scale in 0.4-second



Pen of this High-Speed electronic Dynamaster recording potentiometer traverses 11-in. chart scale in 0.4-second without overshoot at the end. The "deadband" is less than 0.1 per cent of full-scale span. Instrument is offered with standard ranges as low as 1 mv for full scale, with source resistance up to 10,000 ohms. It can record rapidly changing variables such as those encountered in rocket and jet-engine testing, wind tunnel and lab tests. Chart speeds up to 4 ips are offered. Thyrite voltage regulator in the field circuit of feedback damping generator provides constant damping voltage regardless of voltage variation. Made by **Bristol Co.**, 30 Bristol Rd., Waterbury 20, Conn.

▲ For more details circle NED-805 K5 on enclosed inquiry slip ▲

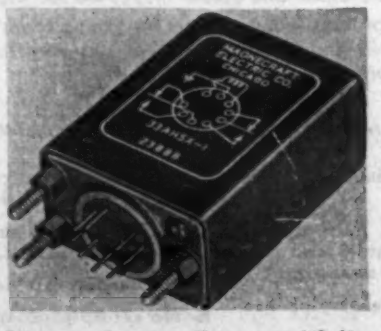
HINGED GEAR JOINT
for automation and remote control



Automation and remote control of machine tools, processing equipment and laboratory test devices are some of the uses for this hinged gear joint. It will carry shaft transmitted power around corners at angles from 3 to 140 degrees away from a straight line. It is available for 7/16, ½ and 9/16-in. shaft sizes with an overall length of 10¼ in. Housing is drop-forged heat-treated section made in two parts. It is also usable for out-of-line power transmissions up to ¼-hp at speeds to 1750 rpm. Made by **Gray & Prior Machine Co.**, Dept. HG, 614 Windsor St., Hartford, Conn.

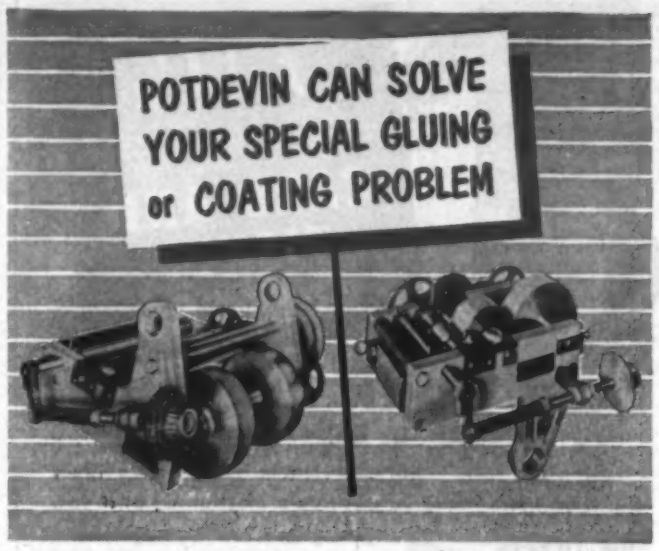
▲ For more details circle NED-806 K5 on enclosed inquiry slip ▲

RECTIFIED RELAYS
have increased reliability on ac



Full-wave rectifiers incorporated in these relays convert alternating current to rectified direct current, thus providing dc operation from ac supply. Advantages obtained compared with conventional ac operation include increased operating sensitivity, higher contact pressures, greater resistance to vibration, more reliable operation through range from 25 to 400 cycles ac, freedom from hum and reduced size. Relays are offered with wide range of contact combinations in hermetically sealed or dustproof enclosures, as well as open types. Made by **Magnecraft Electric Co.**, 3350K W. Grand Ave., Chicago 51, Ill.

▲ For more details circle NED-807 K5 on enclosed inquiry slip ▲



Hundreds of machines available that were designed for special industry applications.

Let us know your problem. We'll be happy to submit recommendation..

If your problem is high speed coating of paint, varnish, glue, latex, etc.—POTDEVIN's sixty years of specialization in coating equipment can quickly help you solve it . . . guaranteeing initial low cost and top efficiency. Illustrated is a topside or underside coating machine for applying resins, varnish, glues, lacquer, etc. to webs or sheets of paper up to 21"

ESTABLISHED IN 1895 POTDEVIN

POTDEVIN MACHINE CO.

273 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

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RESOLITE FIRE-SNUF

Only Fiberglass Panel Labeled by Underwriters'

Fire-Snuf panels are the first and only translucent, fiberglass-reinforced panels to be listed by Underwriters' Laboratories, Inc. They carry the UL label as evidence that they have and are continuing to meet Underwriters' rigid specifications.

They should be specified for skylights, sidewalls, partitions and glazing where fire hazards are unusual or a flame spread rating of below 75 is required. This rating is equivalent to the BOCA classification of "slow burning" or "fire retardant."

Fire-Snuf, made with fire-resistant Hetron* resin, retains all features of standard Resolite—high strength, stability, translucence and load bearing characteristics.

*Reg. trademark of Hooker Electrochemical Co.

Replace Broken Panes With Shatterproof Flat RESOLITE

Material represents less than 20% of the cost of glazing. The *real* cost is high priced labor. Since fiberglass-reinforced Resolite ends pane replacement, it is actually less expensive, maintenance-wise, than ordinary glazing material.

Resolite transmits almost as much light as clear glass . . . a softer, more diffused light. It spreads a uniform, glare-free light over an entire area, reducing eye strain and increasing personnel efficiency.

Resolite flat panes are as easy to install as ordinary glass. They are available in standard Resolite or flame-resistant Fire-Snuf.

RESOLITE CORP., Box 527, Zelienople, Pa.

Distributors in principal cities, U. S. and Canada

Office and Warehouse, CHICAGO, ILL.

Export Office, HOUSTON, TEXAS

▲ For more details circle NED-809 K5 on enclosed inquiry slip ▲

THE *Right* KNIFE CLEARANCE FOR EVERY PLATE THICKNESS

It is simple, fast and easy to adjust the knife clearance on a Steelweld Pivoted-Blade Shear to suit every plate thickness. Only turn a crank and watch a dial. That's all there is to it.

Because of this quick, easy adjustment, every cut made on Steelweld Shears is the best cut possible — straight, smooth, accurate. And of importance, KNIVES REMAIN SHARPER FOR LONGER PERIODS.

Built for thicknesses to 1¼ in. and for lengths to 18 feet.

STEELWELD Pivoted-Blade SHEARS CATALOG No 2011

Send for free Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6616 East 282nd St., Wickliffe, O

STEELWELD SHEARS

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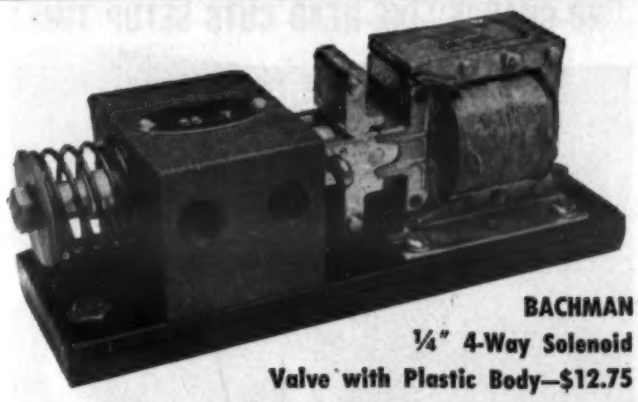


BACHMAN ¼" 4-Way Solenoid Valve with Plastic Body—$12.75

If you are looking for low cost dependability here is a constant duty direct solenoid valve for 200 psi with ¼" orifice—at a price below most hand operated valves. The body is machined from tough canvas base phenolic with ports perpendicular to the laminations.

These valves give millions of cycles of quiet and trouble-free service because the resilient construction *quietly* absorbs the kind of punishment that damages harder materials.

Stems are hardcoated aluminum and permanently resist wear or abrasion. Seals are standard O-rings.

With these units you can operate, check or cushion air cylinders. In air-hydraulic systems they will provide positive check or dwell. Use them for many combinations of manual or automatic control. The valve illustrated is 7" long, weighs 2 lbs. and mounts in any position. Other models have double solenoid and also hand, foot or mechanical actuation. All have ½" stroke with spring return optional.

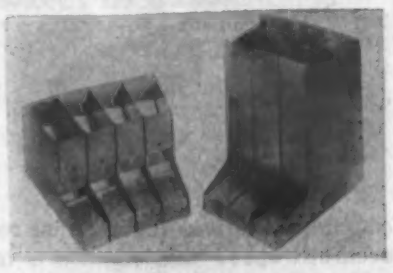
Let us mail you complete literature or ask us to send you one of these units for a 30 day test and decide for yourself whether this long life leakproof valve can save you money.

JOHN D. BACHMAN & CO.

2300 Sparger Lane • Bristol, Tennessee

▲ For more details circle NED-811 K5 on enclosed inquiry slip ▲

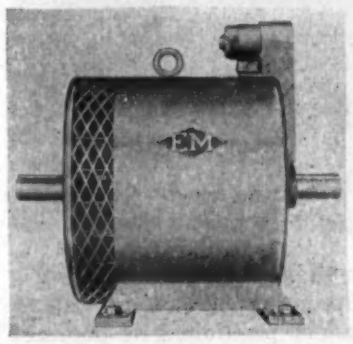
ASSEMBLY BINS kits can be reset for new jobs



Speedbin assembly bin kits, designed in accord with time and motion study economy principles, are quickly set up and easily reset for each new assembly operation. Parts are gravity fed to the operator, with rate of flow controlled by an adjustable shutter. Bins can be fed from the back without disturbing production, even when stacked vertically. All kit parts are interchangeable, allowing for any variation in number of bins and type of setup. Combination of the 3-in. lip for fast pick up of parts and curvature within the normal 19-in. sweep of the human arm minimizes fatigue. Speedbins are made of 24-gage steel. Each kit provides for 30 in. of bin width. Bins are 6 in. deep, with a 3-in. projecting tray. Kit A is 4½ in. high and size B is 9 in. high. Made by **Speedassembly Equipment Co.**, Dept. D, 26 Court St., Brooklyn 1, N. Y.

▲ For more details circle NED-813 K5 on enclosed inquiry slip ▲

ADJUSTABLE SPEED DRIVE used between motor and driven unit offered in ratings up to 95 hp



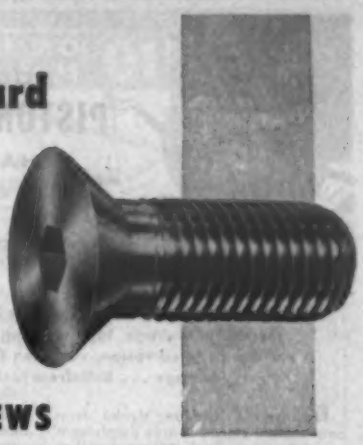
Precise speed control for fans, centrifugal pumps and compressors as well as ability to handle constant torque loads such as mills, conveyors and machine tools is provided by this Ampli-Speed adjustable speed drive. Speed change is made smoothly while equipment is operating, and there is no shock transmitted between motor and load.

System consists of Ampli-Speed drive which is installed between the motor or other drive and the load, a wall-mounted magnetic amplifier speed control and a control rheostat mounted at any convenient location. Drive can either be belted or directly coupled to the motor and the load.

Drive is designed for use with motor speeds of 870, 1150 or 1750 rpm. Ratings of the two sizes range up to 95 hp for fan type loads and up to 75 hp for constant torque loads, depending upon the input speed and the required speed range. It is essentially a magnetic drive in which the magnet member is excited by direct current from the control. Control can be manual or automatic. Made by **Electric Machinery Mfg. Co.**, Dept. NE, 800 Central Ave., Minneapolis 13, Minn.

▲ For more details circle NED-814 K5 on enclosed inquiry slip ▲

specify standard UNBRAKO Flat Head SOCKET CAP SCREWS



for assembling thin-section materials

Head design permits flush assembly. Uniform 82° angle under head provides maximum contact. Accurate hex socket assures positive, nonslip wrenching. Standard sizes—#4 to ¾" in a full range of lengths—are stocked by authorized industrial distributors. Ask your supplier for Bulletin 877. Or write STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

UNBRAKO SOCKET SCREW DIVISION SPS JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-815 K5 on enclosed inquiry slip ▲

PARTS FEEDING PROBLEM . . .

DPS BARREL FEEDER

A Time-Tested Device for use on parts requiring critical selection.

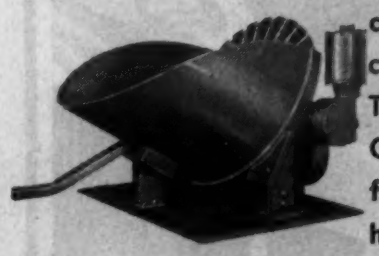
DPS BOWL FEEDER

A VIBRATORY Feeding Device to effectively select and feed parts that could not normally withstand tumbling.

DPS BARREL FEEDER

with STATIONARY RING COVER operating on Rotary Principle but providing 3 TIMES THE LOAD CAPACITY of other feeders. Designed for heavy-duty large production runs.

Send for Up-to-date Catalog TODAY!



GIVE US YOUR PROBLEM GET THE FACTS!

DETROIT POWER SCREWDRIVER CO.

2819 W. FORT ST. DETROIT 16, MICH.

▲ For more details circle NED-816 K5 on enclosed inquiry slip ▲

Order Today still for only $183.60

...you can have the best 500 lb. lifter made

It will pay for its self over and over again in time and labor saved in moving dies, machine parts, stacking, and lifting. A one-man machine that does a three-man job.

A rugged simple machine with few moving parts; no complicated mechanism to get out of order. Structural steel welded construction, built to last a lifetime with practically no up-keep expense. Has big built-in safety overload factor.

Platform lift 4' 6" yet overall height will clear any standard doorway. Width 24", moves easily between machines or in narrow aisles. Spur gear hoist unit lifts loads with only 20 lb. crank pressure. Automatic friction disc clutch holds loads securely at any height.

Type D — 500 lb. capacity	$183.60
Type DX—1000 lb. capacity	350.00
Type DX—2000 lb. capacity	420.00

f.o.b. Chicago

The lowest priced lifter of its type

These prices guaranteed for 30 days only

MAIL ORDER TODAY your Shoplifter will be shipped within 24 hours after we receive your order. Or phone at our expense, ask for Don Suhr.—

ECONOMY ENGINEERING CO., 4519 W. Lake St. Chicago 24, Ill. Phone EStebrook 8-9110

Eastern Sales Office 342 Madison Ave., New York 17, N. Y. Phone — Murray Hill 2-8940 • Representatives in all principal cities.

▲ For more details circle NED-812 K5 on enclosed inquiry slip ▲

If your piston seal problem involves low friction losses, no leakage, high working pressures, resistance to corrosion, vibration fatigue and damage . . . Bellofram is the answer.

Bellofram — the long stroke, deep convolution constant area diaphragm which performs both bellows and diaphragm functions — offers the designer and manufacturer some *19* specific advantages as a piston seal for use in pressure sealed mechanisms. Free positioning with complete relaxation at all points within its designed stroke, the Bellofram has valuable application in *instruments* — to convert pressure into force or displacement with extreme accuracy; in *power actuators* and *motors* — to convert pressure into a long stroke at high thrust levels without mechanical friction; and as *seals* — to prevent leakage of liquid or gas across a moving piston without introducing friction or spring gradient.

Bellofram Seals are manufactured in four distinct classes, to meet the needs of a broad range of pressure sealed mechanisms. Over 300 standard sizes are available, for cylinder bores from 1" to 6". You also have a choice of numerous elastomer-fabric combinations, ranging from Nitrile Rubber and Nylon to Silicone Rubber and Dacron. This tremendous variety permits selection of the most *effective* Bellofram Seal for *your* application. Contact Bellofram now, for complete information on the benefits offered you by Bellofram Seals.

Competent Engineering Counsel Available. Write for new Bellofram Catalog

Bellofram® CORPORATION
MOODY ST., WALTHAM 54, MASS.

▲ For more details circle NED-817 K5 on enclosed inquiry slip ▲

PNEUMATIC HOIST with ROTARY AIR MOTOR

Pulseless, rotary, air motor; no pistons, no reciprocating parts

Capacities 250 lbs. to 1 ton Fast Lifting Speeds

PT Hoist shown with a monorail trolley; can also be furnished with upper suspension hook.

- Worm Geared
- Compact, Light Weight
- Exceptionally Smooth Running
- Close, Sensitive Control

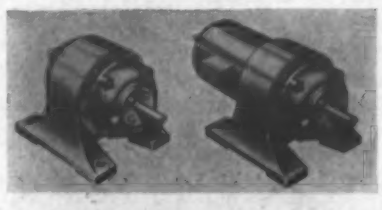
• *Write for PT Bulletin 708*

DETROIT HOIST & MACHINE CO.
8226 Morrow St., Detroit 11, Mich.
Designers and Manufacturers Since 1905

▲ For more details circle NED-818 K5 on enclosed inquiry slip ▲

▲ For more details circle NED-819 K5 on enclosed inquiry slip ▲

VARIABLE SPEED DRIVES
torque output is constant



Stepless variable speeds over ranges from 2:1 to 34:1, with constant torque output, are provided by line of motor induction couplings. Drives feature fast response, maintain an accurate speed and require a minimum of maintenance. Motor sizes start at ¾-hp at 3400 rpm and extend to 75 hp at 1700 rpm. They are usable where it is necessary to vary speed or to control acceleration, deceleration and torque on loads requiring close speed regulation. Where loads fluctuate or input frequency varies, fixed and accurately controlled speed is insured by an automatic regulating device. When an existing prime motor is used, induction couplings are available as separate units. Made by **American Electric Motors Inc.**, 2112 Chico Ave., El Monte, Calif.

▲ For more details circle NED-820 K5 on enclosed inquiry slip ▲

SMALL MACHINIST JACK
has 1000-lb lift capacity

Weighing only 6 oz, this No. 7 machinist's jack features a lifting capacity of over 1000 lb. Jack measures only 4 in. fully open and has screw adjustment of 1 in. It is used for leveling drill presses, milling machines, sections of printing presses and other machinery in all types of plants and workshops. Base is cast iron with tilting swivel head and adjustable steel screw. Permanent positioning is obtained with adjusting pin and lock nut. Made by **General Hardware Mfg. Co.**, 80A White St., New York 13, N. Y.

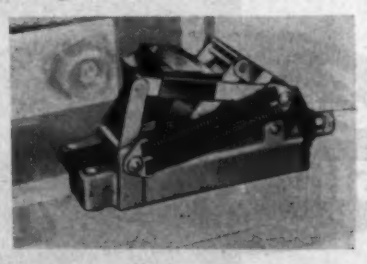
▲ For more details circle NED-821 K5 on enclosed inquiry slip ▲

AIR-OPERATED SHEAR
will cut up to 1¾ in. bar

Cold ferrous and nonferrous bars up to 1¾ in. square or round can be cut by type O-SC-20 air-operated shear which operates from standard shop air supply or compressor at pressures from 60 to 125 psi. Shear cuts bar or flat stock in general production work, processes light scrap in conjunction with baling press and cuts concrete reinforcing rods. It has 10-in. knives with 4 cutting edges which can be set-screw adjusted. Made by **Curry Air Shear Corp.**, Dept. 50-S-1, 941 Oliver Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-822 K5 on enclosed inquiry slip ▲

AUTOMATIC STOCK FEED
for coiled stock up to 2 in. wide



Micrometer adjustment on the Jaco-Matic, an automatic feed for coiled stock, controls length of feed travel accurately within 0.001-in. Device accommodates stock up to 2 in. wide and has a maximum feed stroke of 2 in. Designed for continuous runs, it is powered by the press ram for feeding on either the up or down stroke. The tungsten carbide blade lifts clear of the stock on the return stroke for maximum wear life and prevents marking of soft stock. Feed can be installed on any mechanical, hydraulic, compressed air or electrically operated press. Made by **Jaco Devices, Inc.**, 95 High St., Hingham, Mass.

▲ For more details circle NED-823 K5 on enclosed inquiry slip ▲

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

LIFT OR LOWER— FLOOR TO FLOOR WITH A

STANDARD INCLINEBELT

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for INCLINEBELT Bulletin — address Dept. NED-105.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

▲ For more details circle NED-824 K5 on enclosed inquiry slip ▲

"NO-CHANGE" DIE HEAD CUTS SETUP TIME!

FREE BOOKLET TELLS HOW...

Send today for this fully illustrated 8-page booklet on Oster "Rapiduction" Pipe Machines.

It contains detailed information on these modern high-production machine tools . . . closeup views of fully explained design features . . . data on standard and extra equipment . . . time studies . . . and complete specifications on these machines.

THE **OSTER** MANUFACTURING CO.
Main Office and Factory: 2066 E. 61st St., Cleveland 3, Ohio
New York Factory Branch Sales and Service, 25-36 Jackson Ave., Long Island City 1, N. Y.

BUILDERS OF COST-REDUCING THREADING EQUIPMENT SINCE 1893

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THE *Sutton* MOTOR DRIVEN PRESSURE BLOWER

THREE SIZES ¼, ½, 1 H.P.

USE FOR
- EXHAUSTING
- DUST
- SMOKE
- FUMES
- VAPOR
- FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY. CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6". Write for literature and prices.

Sutton *Manufacturing Corp.*
112 W. WILSON AVENUE NORFOLK, VIRGINIA

▲ For more details circle NED-826 K5 on enclosed inquiry slip ▲

lightweight power pump for hydraulic pipe benders and hydraulic rams of all types

Powerful . . . lightweight . . . versatile. New GREENLEE 798-CO Power Pump weighs only 50 pounds, some 40 pounds less than previous types . . . easily carried from job to job. Powerful ½-hp universal motor operates on 110 a-c or 115 d-c current . . . thus, this pump can be used on any job with either type of current. Adjustable-pressure valves . . . quick approach. Write for details.

GREENLEE

GREENLEE TOOL CO., 1950 HERBERT AVE., ROCKFORD, ILL. U.S.A.

▲ For more details circle NED-827 K5 on enclosed inquiry slip ▲

For projects on the board . . .

for equipment in use . . .

PARAGON offers 15 time-control switches in 71 models

to solve practically any ON-OFF or interval-timed operation

You design it . . . Paragon synchronous-motor time controls will start and stop your product — or production — automatically, on schedule every time!

Broad statement? No! With a choice of 71 standard models of 15 basic industrial time control switches, the job is easy. And, if yours is a special problem, Paragon will work with you to tailor a time control to meet your specific requirements.

How automatic is your plant Mr. Engineer?

Why depend on pushbuttons and manual control that cause production slow-downs when the job can be automatically and dependably controlled by Paragon time switches:

- **seconds . . .** Preset interval timers with 5-sec. to 30-min. graduations, 5-min. to 20-hour range.
- **minutes . . .** Cycle repeater timers with ½-min. to 60-min. graduations, 10-min. to 24-hour range.
- **hours . . .** 24-hour On-Off switches with up to 16 operations per day.
- **days or weeks . . .** day calendar dial with individual daily settings, Sunday and holiday cutoff.

Your Paragon representative can assist you in selecting the right control — check with him NOW, or write for new catalog.

PARAGON ELECTRIC COMPANY
1626 TWELFTH ST., TWO RIVERS, WISCONSIN

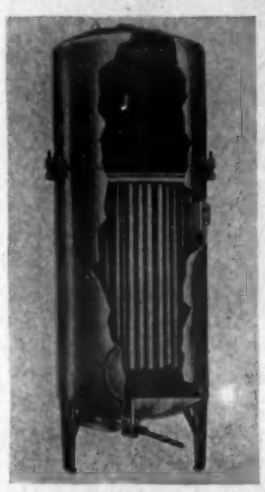
▲ For more details circle NED-828 K5 on enclosed inquiry slip ▲

PERSONNEL CARRIER carries 4 persons at 6 mph

When not being used for intraplant personnel movements, the four air cushion seats on this electric personnel carrier can be removed to permit delivery of miscellaneous freight. Truck has a 2000-lb capacity, a deck 54 in. long by 40 in. wide, and top speed of 6 mph with a capacity load. Deck is 9½ in. above the floor. Operator can stand or sit on the battery compartment. All controls for three speeds and braking are on the floor. Made by **Lewis-Shepard Products, Inc.**, Dept. R-27, Watertown 72, Mass.

▲ For more details circle NED-829 K5 on enclosed inquiry slip ▲

COOLANT SYSTEM FILTER diatomaceous earth-coated screens are cleaned by backwashing action



Need for manual cleaning is eliminated entirely in this Pre-Coat filter by built-in backwashing feature. Filter is designed for mounting on central coolant system tank and provides high flow filtration for water-base or mineral oil coolants used in metalworking operations. Top section of filter body is the clean coolant dome, while section below has 199 perforated filter tubes suspended vertically.

In normal operations, tubular screens of filter are precoated daily with diatomaceous earth to assure fine degree of coolant clarity. Particles are held on coated screens as coolant passes upward through tubes then on through dome section to outlets at top of filter. When thickness of contamination on tube surfaces impedes passage of coolant, pump is stopped to reverse flow. Backwash of clean coolant flushes contamination away. Made by **Houdaille-Hershey of Indiana, Inc.**, 70 South Ave., Lebanon, Ind.

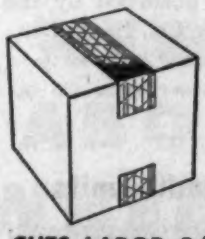
▲ For more details circle NED-830 K5 on enclosed inquiry slip ▲

Floor Care

S. C. Johnson & Son, Inc., Maintenance Wax Dept. —"How to Care for Your Floors" is a 24-page illustrated booklet that suggests treatments for such floor failures as loose tiles, yellowing, lack of water resistance, blooming and tackiness. Long range and day-to-day maintenance programs for all types of floors are described in detail.

▲ For more details circle NED-831 K5 on enclosed inquiry slip ▲

The SNAKE TAPE Idea



. . use 2 strips only!

NOW ACCEPTABLE for Rail Shipments under U.F.C. Rule 41

CUTS LABOR 2/3 because you seal only the two center seams!

IT'S STRONGER because *reinforced* Snake Tape has strap-like strength. *Strength* you'll find in no other gummed tape because it's reinforced with *rayon* yarns . . . the same rayon yarns used in the best auto tires for superior shock absorbence.

PROVE TO YOURSELF, and at our expense, how much you can save in sealing time and in damage claims. Send for FREE sample of Angier Snake Tape now.

Free - 15 yd. sample

ANGIER CORPORATION • Framingham 30, Mass.

▲ For more details circle NED-832 K5 on enclosed inquiry slip ▲

New K-P PISTOL TYPE OILERS

The greatest advancement in pistol type oilers

- Interchangeable spouts and tips
- Complete take-apart
- Each part may be cleaned
- Detachable base or handy holder
- Seamless bottoms, perfect seals

Optional wall holder or new patented detachable non-tip base available.

TAKE APART TO CLEAN IN 30 SECONDS!

THE K-P LINE is a Complete Line 16 models—5 oz. to 1 qt.

Here's the all purpose oiler . . . so designed to handle adhesives, cement, and ink, plus oils and lubricants. In addition the K-P Oiler has the complete take apart feature. No need to throw away clogged oilers anymore.

WRITE TODAY FOR PRICES AND DETAILS

K-P MANUFACTURING CO.
1222 Linden Ave., Minneapolis, Minn.

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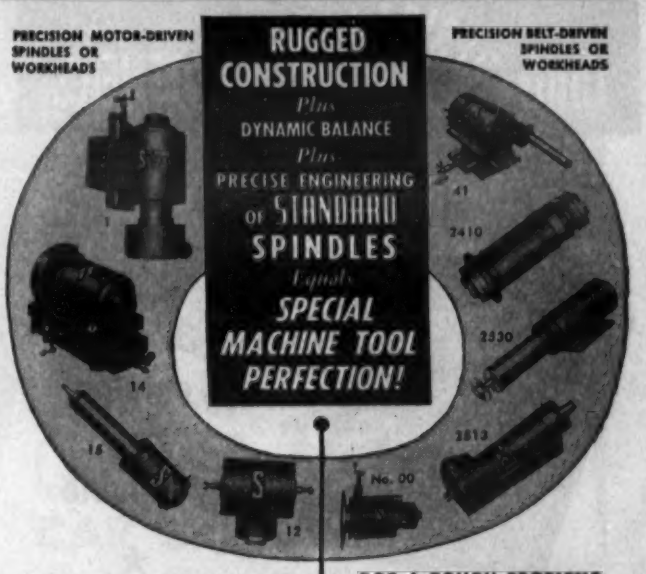

In nearly 500 American and foreign plants, STANDARD spindles are doing a top production job as modernizing applications on old machines, and in special adaptation for custom jobs.

GOT A TOUGH PROBLEM? Our custom engineering department has or will get the answer for you. Tell us about it today — you'll get RESULTS that mean LOWER COST— GREATER PRODUCTION!

Write for free literature today.

the STANDARD electrical tool co.
Since 1912
PRECISION SPINDLES AND MACHINE TOOLS
2488 RIVER ROAD • CINCINNATI 4, • OHIO

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BOSTITCH T5 TACKER

twice as fast as hammer and tacks!

- Locates staples quickly, accurately.
- Drives staples to within 1/16" of corners.
- Penetrates deep into hard or gummy woods.
- One-hand operation leaves other hand free for holding or aligning material.

Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES

Write for more information about the Bostitch T5 Tacker: BOSTITCH, 690 Mechanic St., Westerly, R. I.

▲ For more details circle NED-835 K5 on enclosed inquiry slip ▲

VER-T-RACK

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- GREATER SAFETY FACTOR
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT — 63¾" LENGTH: 35"
WIDTH: 24" CAPACITY: 1 TON

Standard Equipment:—6" roller bearing casters, in steel, texite or mold-on rubber wheels.

VER-T-RACK can be handled with lift truck. Trays are adjustable on **VER-T-RACK**

REPRESENTATIVES WANTED

Write today for Descriptive Literature

THE VINCE BASNIK CO.
2020 Center St., Dept. N. Cleveland 13, O.

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OHIO RESISTANCE WELDING FASTENERS

Designed to become an actual part of the metals they join.

NEW 32-page catalog now available

★

Contains valuable technical information on Resistance Welding techniques and applications. Send for your copy today.

Samples and information furnished upon request

THE OHIO NUT AND BOLT COMPANY
Specialists in the Manufacture of Weld Fasteners and Adjusting Screws

14 FIRST AVENUE BEREA, OHIO

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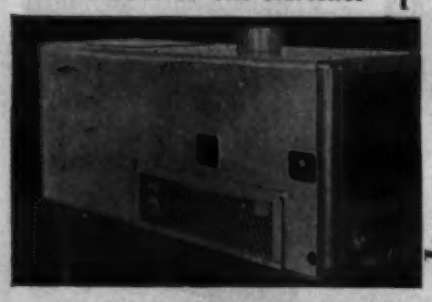
Sicon* IN COLORS

HEAT-RESISTANT FINISH

*A PRODUCT OF THE SILICONES



PROTECTS this Heater at Temperatures of 875°F.

Sicon Aluminum protects the combustion chambers of John Zink Heaters against extreme high heats of 875°F. without powdering or losing its gloss.

Sicon, in attractive COLORS, also preserves the OUTSIDE appearance of their products, adding greatly to sales appeal, and prolonging life.

For inside and outside application this amazing silicone base finish provides sure protection plus sales appeal. WRITE FOR DETAILS . . . TODAY!

Manufactured exclusively by

MIDLAND Industrial Finishes
Waukegan, Ill.

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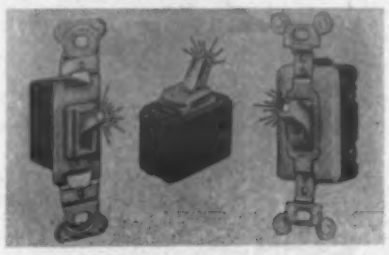
GLOW TIP SWITCH BUTTONS
easily spotted during darkness



Every unit in the Quiette light switch line — Lifetime, Interchangeable and Junior—can now be supplied with radioactive luminous button located in tip of operating lever. These Glo-Tip buttons will glow continuously and do not depend upon daylight to build up luminous properties. They meet U. S. Armed Forces specifications for radioactive luminous materials. Made by **Arrow-Hart & Hegeman Electric Co.,** 101 Hawthorn St., Hartford 6, Conn.

▲ For more details circle NED-839 K5 on enclosed inquiry slip ▲

WIREBOUND SHIPPING CRATE
for porcelain cast iron fixtures

Design innovations of these wirebound shipping containers for porcelain cast iron fixtures and other products with fine finishes afford users such advantages as increased packing rate, reduction in materials used and substantial weight savings. Cost of completed wirebound container is said to be 5 per cent less than the materials alone in the nailed wooden crates used previously. Rock (loop) fasteners speed up unpacking. Stacking, handling and storing features are all improved. Container has been approved by Safe Transit Committee. Made by **American Box Co.,** 1917 W. Third St., Cleveland 13, O.

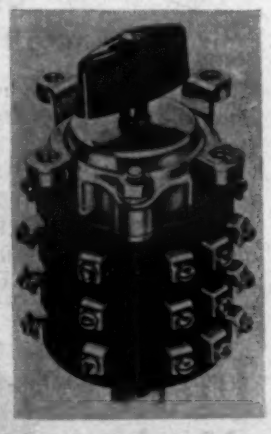
▲ For more details circle NED-840 K5 on enclosed inquiry slip ▲

MERCURY LAMPS
400-w models now give more light

Improved G-E 400-w mercury lamp models H400 - E1, J1, R1 and RC1 now produce from 5 to 12 per cent more light initially and have longer burning life. Improved lamp shown at right is newly rated 6000 hours "economic" life. Actual life can exceed this figure by as much as 3000 hours. Early burnouts have also been reduced 50 per cent. In construction, silver-plated wire replaces metal bands in framework of mount which supports mercury element inside the outer bulb. Silver finish reflects light formerly absorbed by the dull bands. Made by **General Electric Co.,** Lamp Div., Dept. 166-NED, Nela Park, Cleveland 12, O.

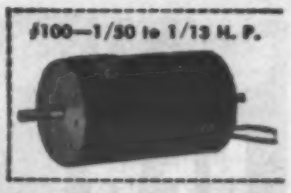
▲ For more details circle NED-841 K5 on enclosed inquiry slip ▲

ROTARY SWITCHES
eight-position, single-handle units



Designed for tap, transfer or selector applications, the JD-JS rotary switch line offers a choice of detent or snap action. Single-handled switches are rated at 30 amp, 230 v ac and can have up to five poles. JD type with detent action permits rotor movement to be limited to any number of positions up to eight, with or without an off position, or it can have unlimited movement in both directions. JS snap action type is available with unlimited rotation in both direction utilizing all eight positions, or it can be limited to two, three, four or five positions. Required panel mounting area is a 4-in. circle. Made by **Electro Switch Corp.,** Dept. NED, 167 King Ave., Weymouth 88, Mass.

▲ For more details circle NED-842 K5 on enclosed inquiry slip ▲



a lot of **POWER** in a small package

HOWARD Universal & **DC fractional H. P. Motors**

Among the most versatile motor types in the wide Howard line, these two small motors are used for everything from aircraft pumps to radar equipment. More than 1000 specifications for as many applications are on file for these two motors. Chances are we have the right model to fit your needs. Write today and tell us your requirements. Your inquiry will be handled promptly.

DEPT. NE-10 HOWARD INDUSTRIES, INC. • RACINE, WIS.
DIVISIONS: EMC ELECTRIC MOTOR CORP. CYCLOHM MOTOR CORP. RACINE ELECTRIC PRODUCTS

▲ For more details circle NED-843 K5 on enclosed inquiry slip ▲

SHOCK ABSORBERS FOR ELECTRICAL ASSEMBLIES

Protect your lighting fixtures and other suspended electrical equipment from vibration damage with THOMPSON shock absorbers. Featuring angular as well as vertical movement for maximum shock absorption, these durable units are designed for use in a wide range of applications.

THOMPSON shock absorbers are available in light and heavy-duty models having load capacities up to 80 pounds maximum. Fabricated from light-weight aluminum alloys, these versatile units assure long trouble-free service life for lighting fixtures, meters, fans, instrument panels, motors, process controls, unit heaters and similar items.

Write today for Bulletin SA-55 for complete details.

6090-TE

THE THOMPSON ELECTRIC CO.
1138 Power Avenue • Cleveland 14, Ohio

▲ For more details circle NED-844 K5 on enclosed inquiry slip ▲

INEXPENSIVE
HUMIDITY CONTROL
eliminates production and storage problems caused by "dry air"

A COMPLETE LINE OF
UNIT HUMIDIFIERS
FOR INDUSTRIAL NEEDS

Self-contained units for single or multiple installation in large or small areas; wide capacity range.

TYPE E
Evaporates up to 3 gph with ¼ hp motor.

- Fully automatic
- No floor space needed
- Free engineering service
- Trouble-free

Write for specific recommendations; or get details on entire line in free Catalog N-4.

Bahnson COMPANY
WINSTON-SALEM, N. C.

▲ For more details circle NED-845 K5 on enclosed inquiry slip ▲

KESTER SOLDERING FLUXES can be had in 160 different formulae, all widely proved by actual industrial use. Whatever your needs, we can supply a Flux that will give the exact results required. Kester Fluxes are available in the usual containers from 5 gallons to a pint.

Write today for Complete Flux Brochure

KESTER SOLDER COMPANY

4249 Wrightwood Avenue, Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

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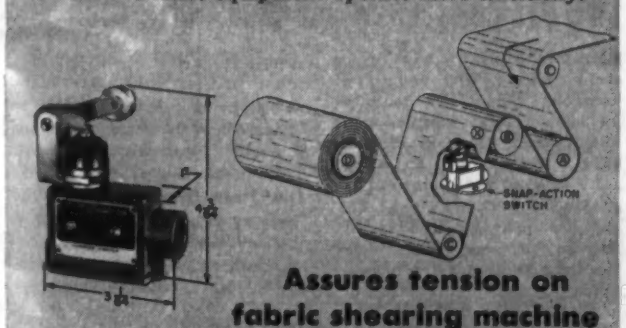
MICRO SWITCH Precision Switches
A PRINCIPLE OF GOOD DESIGN

Increase production and provide safety by adding MICRO SWITCH precision switches

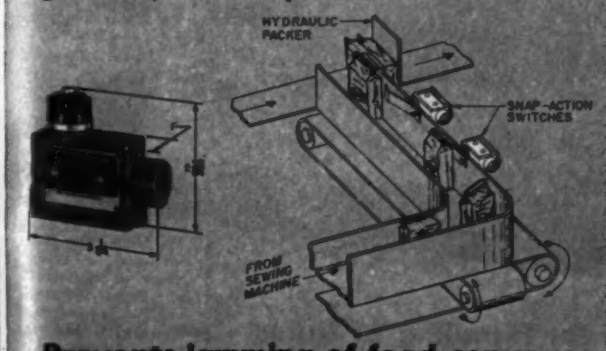
MICRO SWITCH precision switches are used by many progressive plant operators to make present equipment function more automatically, more rapidly and with greater protection to both operators and products. Result—increased production—a better product at a lower cost.

Here are two that illustrate how MICRO SWITCH products are used to make equipment operate more efficiently.



Assures tension on fabric shearing machine

• Fabric travels over rubber take-up rolls "A" and "B" to spreader roll "C" and on to batch roll "D". The batch roll is controlled by a slip-type take-up clutch. Tension is manually added as the roll builds up. If tension is not added soon enough, the fabric slacks at "X". The switch is mounted beneath take-up roll "B". When the slacked fabric starts to rewind, it actuates the switch which stops the machine and prevents damage to shaft, chain and sprocket.



Prevents jamming of feed conveyor

• Two switches installed on this feed conveyor prevent bags of sugar from piling up when the hydraulic packer jams. The switches are wired into the control circuit so that they operate independently as each bag passes. When bags pile up, both switches operate simultaneously, shutting off the conveyor. This ingenious arrangement prevents torn sugar bags and damage to sewing machines.

Look in the Yellow Pages for the name of the MICRO SWITCH distributor near you

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

▲ For more details circle NED-847 K5 on enclosed inquiry slip ▲

FIRE HOSE NOZZLES produce fog or straight stream

All degrees of fog, plus a straight stream are available in these brass fire hose nozzles. No. 711 shown right is especially designed for use on hose rack and cabinet units. UL-approved, it functions best at low pressures. At left is No. 1300 nozzle for use in industrial plants. It features heavy-duty construction plus high gallonage delivery. Both can be shut off by turning in either direction. Made by **Akron Brass Mfg. Co.**, Dept. OH, Wooster, O.

▲ For more details circle NED-848 K5 on enclosed inquiry slip ▲

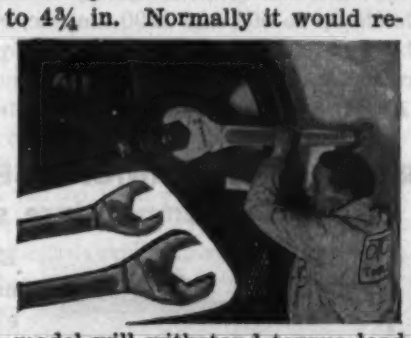
SOLENOID VALVE does not require back pressure

Full port, normally closed type G solenoid valve does not require back pressure in its operation. It will operate and hold fully open with low or no flow pressure and is suited for use on vacuum lines and in control of liquids with wide range of viscosities. Temperature limit in latter application is 212° F and static rating is 150 psi. Packless valve has a globe bronze body with screwed ends in sizes of 1 to 3 in. Pilot connections can be specified. Valve can be made to order with a handlift to provide an emergency or by-pass control. Made by **Magnatrol Valve Corp.**, 71 Fifth Ave., Hawthorne 8, N. J.

▲ For more details circle NED-849 K5 on enclosed inquiry slip ▲

GIANT ADJUSTABLE WRENCHES replace 42 fixed sizes

With jaw settings in 1/8 and 1/16-in. graduations, these Slim-Twin giant adjustable wrenches can be adjusted from 1 3/8 to 4 3/4 in. Normally it would require 42 fixed size wrenches to cover a comparable range. Wrenches are drop forged from high quality alloy steel. The 24-in. long wrench is rated to withstand 3500 lb ft of torque, while 36-in. model will withstand torque load of 10,000 lb ft. Each adjustment is secured with nut and bolt to minimize hazard of adjustment slippage. Made by **Owatonna Tool Co.**, 436 N. Cedar St., Owatonna, Minn.



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GOOD NEWS ABOUT WHEELS

NEWS! About how 44 centers and only 22 bearings give a choice of 144 sizes to 12" x 4".

NEWS! About American Steelite® light-weight champs—weighing up to 9 pounds less than ordinary wheels.

NEWS! About American Tread-Lock method—the tread is *Rolled On So It Won't Roll Off!*

NOW! Get all this NEWS in the NEW bulletin on American Industrial Wheels, from:

THE AMERICAN PULLEY COMPANY, Phila., Pa.

The American Pulley Company 4294 WISSAHICKON AVE., PHILA. 29, PA.

Gentlemen:
I want the NEWS about Wheels—rush me your new American Steelite® Wheel Bulletin.
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Firm Name_____
Address_____
City_____ Zone____ State____

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PEDRICK BENDING COSTS LESS

If it's pipe, tube, or a structural shape—it can be bent faster, cheaper and more accurately on Pedrick Production Benders.

Let us show you how "it figures" with a dollars and cents answer to your particular bending problem. Write PEDRICK TOOL AND MACHINE Co., 3640 N. Lawrence St., Philadelphia 40, Pa. Dept. 6

FREE "PEDRICK LINE" BULLETIN. WRITE TODAY

PEDRICK production benders

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PROTECT CARLOAD SHIPMENTS

use the NEW STANLEY® Power CAR BANDING TOOL

Stanley has developed a new ELECTRIC CAR BANDING TOOL that will minimize product damage, save time, reduce material and labor costs! It has a built-in shear (with automatic handle return) that eliminates the need for an extra shearing tool. Use this new tool to brace carload shipments of your product, however you pack it. Write for free booklet "Stanley Car Banding System" and request an on-the-job demonstration from the Stanley Steel Strapping Specialist.

STANLEY INSURE IT — SECURE IT WITH STANLEY STEEL STRAPPING

STEEL STRAPPING DIVISION

THE STANLEY WORKS, 580-S LAKE ST., NEW BRITAIN, CONN.
Telephone: BAldwin 9-2021
STANLEY TOOLS • STANLEY HARDWARE • STANLEY ELECTRIC TOOLS
STANLEY STEEL STRAPPING • STANLEY STEEL

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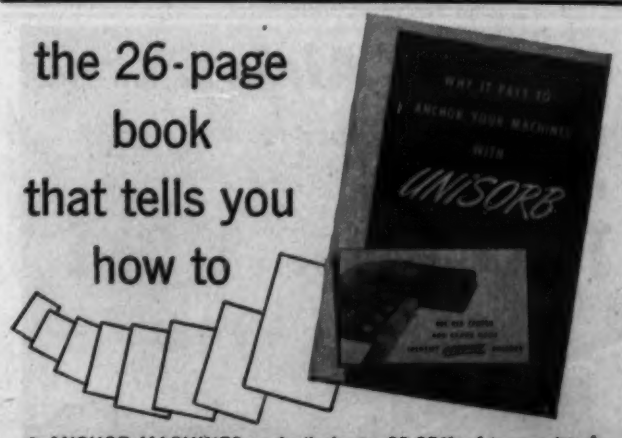
the 26-page book that tells you how to



- ANCHOR MACHINES and eliminate 60-85% of transmitted vibration
- ELIMINATE DRILLING of wood or concrete floors when installing machines
- SAVE TIME and money (up to 30%) on installation costs

For your copy of this valuable book, showing actual plant installations of UNISORB®, return the coupon today.

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MARK EQUIPMENT...
with GRAVO flex
the first chip-proof, flexible engraving stock on the versatile Engravo

shear it
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bend it
form it
punch it

So simple to engrave Gravoflex. Lettering will stand out permanently on contrasting background. No paint needed.

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NEW HERMES ENGRAVING MACHINE CORP.
15-19 UNIVERSITY PLACE, NEW YORK 3, N. Y.

NEW ELPAR FORK TRUCK

★ 3000 lbs. Capacity
★ Electric Powered
★ Extra Maneuverability

COMPACT, EASILY STEERED—Wheelbase 42"; width 35"; 120½" stacking aisle with 36" long forks. This compact size plus the new knuckle type trail axle with 75° maximum wheel turn provide easy maneuverability in narrow aisles and congested areas.

FASTER MAINTENANCE—All parts instantly accessible for lubrication or inspection. Heavy duty knuckle pin bearings, center sill frame construction, low hydraulic pressures, special E-P built motors, and double reduction drive unit are typical design features insuring low cost operation.

WRITE FOR ALL THE FACTS ON MODEL F-45T3

THE ELWELL-PARKER ELECTRIC COMPANY
4096 St. Clair Avenue • Cleveland 3, Ohio

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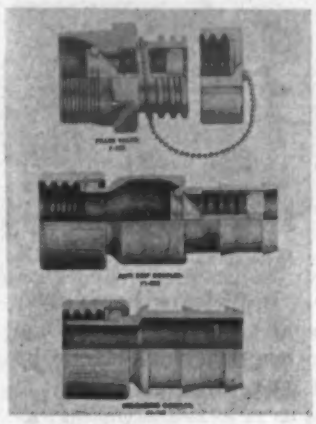
Swartwout Airjector—
the powered rotary ventilator that gives you
TWO ventilators in ONE

If your operations produce extra floods of heat at certain periods but need only moderate ventilation otherwise, Airjector handles both jobs admirably. Made in 13 throat sizes, over 100 capacity variations. "Very quiet" fans also available. Write for Bulletin AJ-C.

18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

▲ For more details circle NED-858 K5 on enclosed inquiry slip ▲

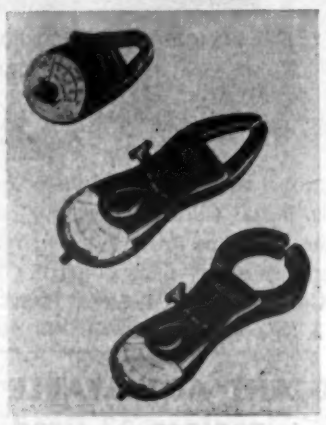
RAPID TRANSFER COUPLER
maintains liquid or gas pressure



Circle Seal coupler, designed for rapid transfer of liquids or gases, consists of a filler valve that is threaded into the tank and a coupler for quick connection between hose and filler valve. Latter unit incorporates a check valve to permit flow into the tank, yet automatically shuts off when the coupler is disconnected. An alternate type is designed to open the valve unit in the filler valve to permit draining or reverse flow. As the liquid or gas can be transferred and maintained under pressure, loss of vapor or tank pressure is prevented. Made by **James-Pond-Clark**, 2183 E. Foothill Blvd., Pasadena 8, Calif.

▲ For more details circle NED-857 K5 on enclosed inquiry slip ▲

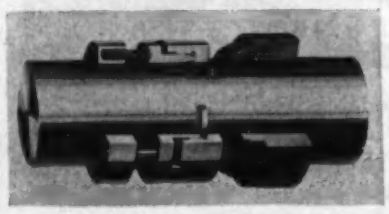
SNAP-AROUND VOLT-AMMETERS
line offers models for every job



With addition of three high voltage Amprobe Junior models, line of snap-around volt-ammeters now offers a model for every job. Instruments are available in 0-125/250-v models in current ranges of 0-10, 0-25, 0-50 and 0-100 amp ac and in 0-150/600-v models in ranges of 0-25, 0-50 and 0-100 amp ac. Model 300 for all-around work covers 6 ammeter ranges up to 300 amp ac and three voltmeter ranges up to 600 v. Models 600 and 1200 are also multi-range units, but will handle heavy loads up to 600 and 1200 amp ac, respectively. Made by **Pyramid Instrument Corp.**, Dept. NED, 630 Merrick Rd., Lynbrook, N. Y.

▲ For more details circle NED-858 K5 on enclosed inquiry slip ▲

ROTARY MECHANICAL SEAL
for high temperature service



Easily installed on new or existing equipment, this Dura rotary mechanical seal will handle hot oils or hot water at temperatures up to 800° F. Type RHU unbalanced assembly (illustrated) and type PHU balanced assembly are available. Seal is constructed generally of stainless steel, with durable wearing faces and stainless steel U-ring shaft packings. Design allows for thermal expansion and does not require stuffing box flushing, unless to control vapor pressures or flush out excessive coke formation. Made by **Durametallic Corp.**, Dept. D, 2104 Factory St., Kalamazoo, Mich.

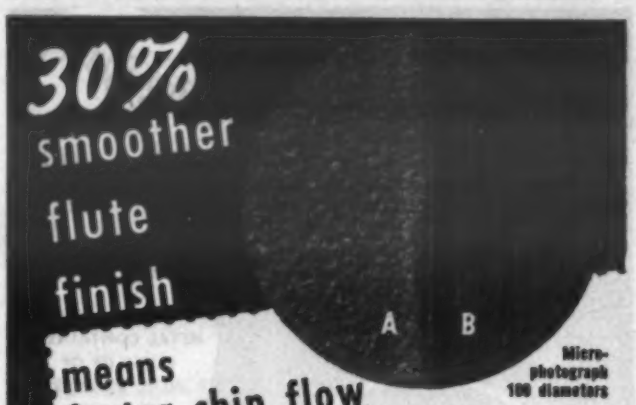
▲ For more details circle NED-859 K5 on enclosed inquiry slip ▲

ELECTRIC FOLDING MACHINE
folds 150 letters per minute

Letters, bulletins, lists, statements, invoices and other paper items can be folded at speeds up to 150 copies per minute on model 57 electric folding machine. Unit can be dial-set for any of the following six folds: single, parallel or letter, accordion or statement, double parallel, French (horizontally then vertically), or horizontal and then two vertical folds. Operating instructions are permanently attached to receiving tray. Duplicating papers, bond, ledger, book, coated and uncoated paper stocks are handled easily. Made by **A. B. Dick Co.**, Dept. NEW, 5700 W. Touhy Ave., Chicago 31, Ill.

▲ For more details circle NED-860 K5 on enclosed inquiry slip ▲

30% smoother flute finish



means faster chip flow

Note how new Wendt-Sonis Flo-Finish (A) eliminates grinding marks. Profilometer readings show new Flo-Finish actually 30% smoother than (B) ground finish usually used on round tools. Chips flow out of flutes quickly and smoothly . . . tools cut faster, provide a better finish, and stay sharp longer. Used on all Wendt-Sonis round tools. Write Department NE-1055 for bulletin.

WENDT-SONIS COMPANY, Hannibal, Missouri

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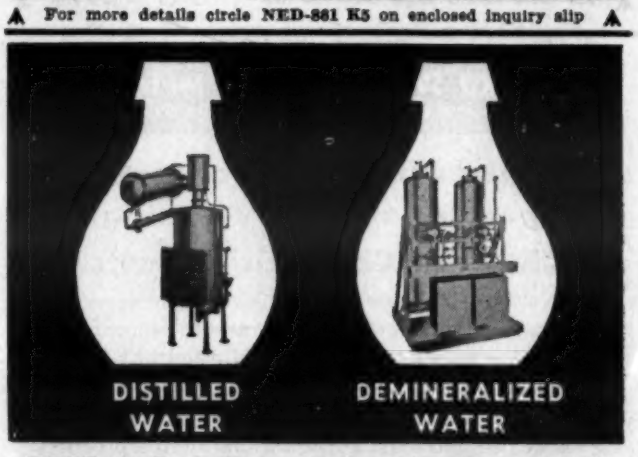

Which Do You Need?

Barnstead Stills remove from the water all impurities: ionizable and non-ionizable including silica, organic gases and bacteria. 75 years of Barnstead Pure-Water Experience . . . over 60,000 Barnstead installations throughout the world . . . guarantee a tailor-made solution to *your* Pure Water Problem! Write for free consultation.

Barnstead Demineralizers produce mineral free water at a substantially lower operating cost. Where the removal of only ionizable impurities is required, demineralization is the answer. Barnstead Demineralizers in capacities of 5 gallons to 1,000 gallons per hour produce demineralized water for as little as 5c per thousand gallons.

WRITE FOR BARNSTEAD PURE WATER BULLETINS TODAY.

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KIngsbridge 8-1557

Barnstead STILL & STERILIZER CO.
16 Lanesville Terrace, Boston, Mass.

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• NEW
• INEXPENSIVE
• EASY TO MOVE

FLEXO-CRANE

For Handling of Loads Up to One Ton

If real economy, safety and ease of operation are of interest to you, check into Abell-Howe's new FLEXO-CRANE. You can buy it complete with hoist and other accessories or assemble it yourself from a FLEXO-CRANE "kit".

Bulletin F-114
Gives You All the Details
Write for It Now

The Abell-Howe line includes a wide range of motorized and hand operated cranes, runways, monorails, electric hoists, storage racks and accessories.

ABELL-HOWE CO. 53 W. JACKSON BLVD. CHICAGO 4 ILLINOIS

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How to Bond New Concrete to Old Concrete...permanently!

The answer is

WELD-CRETE®

Weld-Crete is the amazing, job-proved liquid bonding agent (approved by New York City Board of Standards and Appeals) which enables you to *permanently* bond new concrete or cement topping *directly* to old concrete surfaces. Eliminates from permanent concrete repair work the need for costly, time-consuming drilling, chipping, roughening or scarifying of old concrete base. To use, simply apply a brush or spray coat of Weld-Crete to old dirt and oil-free concrete surface (floor, ramp, driveway, curb, etc.) . . . let dry (about 1 hour), then apply new concrete. Your repair is *permanent* . . . a Weld-Crete bond *never lets go!* When used with quick setting cement topping you can lay new floors, ramps, driveways, etc. one day and run heavy truck traffic over them the next. Ask your Building Materials Dealer . . . or write us direct.

Typical WELD-CRETE Applications: In this case, Weld-Crete was used by National Brick Co., Terra Cotta, D. C., to bond new ¾" concrete topping directly to old, badly chipped and spalled floor slab which had been subjected to ceaseless heavy truck traffic. Plant shut-down time eliminated because Weld-Crete enabled National's own mechanics to do job over week end.

NATIONAL BRICK COMPANY

LARSEN PRODUCTS CORPORATION
BOX 5756-N • BETHESDA, MD.

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PDQ

QUICK CHANGE MICROMETER BORING BAR

by PORTAGE

FEATURES...

★ Precision Accuracy.
★ Tool offers new ease in operator adjustment.
★ Micrometer-adjusting screw is *not* exposed to dirt and chips . . . entire screw is enclosed in the bar.
★ Wedge Clamp offers positive locking of the tool bit.

This newly designed and patented micrometer boring tool offers additional features not found in other precision boring tools. All of the critical precision parts of the tool are completly enclosed and protected in the bar itself. Wedge clamp design offers a new standard in tool bit holding power and overall bar rigidity.

PORTAGE Double-Quick TOOL CO.
1043 SWEITZER AVENUE • AKRON 11, OHIO

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Rotary Air Motors 1/20 to 4 h.p.

all GAST rotaries use this

SIMPLE PRINCIPLE

Air Compressors to 30 p.s.i. to 24 c.f.m.

Vacuum Pumps to 28 in. to 24 c.f.m.

Always striving for simplicity in your products? So are we. Simplicity lowers costs — increases dependability. And it's a *big* reason why engineers and users favor Gast components.

A rotor and four sliding vanes are the only moving parts. Centrifugal force holds self-seating vanes tightly against the interior of housing, maintaining a continuous seal, and taking up any wear automatically. Air delivery is positive, pulseless, quiet . . . without bulky air tank.

Get the advantages of Gast simplicity for *your* products! *Write for new "Application Ideas" Booklet — and request data on specific models.* Gast Manufacturing Corp., P.O. Box 117-R Benton Harbor, Michigan.

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY
• AIR MOTORS TO 4 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
See Our Catalog in Sweet's Product Design File

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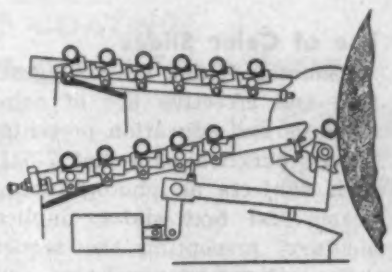
LOADING ATTACHMENT for cylindrical grinders

Work pieces can be automatically loaded into cylindrical grinders between centers and then removed when ground by this turret type attachment. It can be adapted to a wide variety of small parts that can be rolled by gravity on inclined rails. A number of pieces can be placed on the loading rails by the operator or they can be fed to the loader from a conveyor. Latches on the rails separate the parts and release one piece at a time to the turret, carried on a swinging arm. Valve in the machine's operating cycle hydraulically actuates the arm to locate the work piece in line with work centers. Once ground, the turret arm swings upward and the piece rolls onto the inclined unloading rails. Made by **Norton Co.**, 200 New Bond St., Worcester 6, Mass.

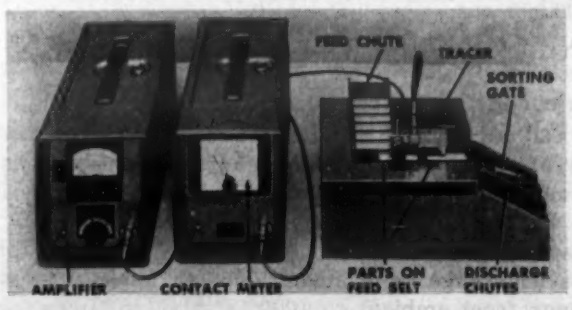


WORK BEING GROUND

▲ For more details circle NED-867 K5 on enclosed inquiry slip ▲

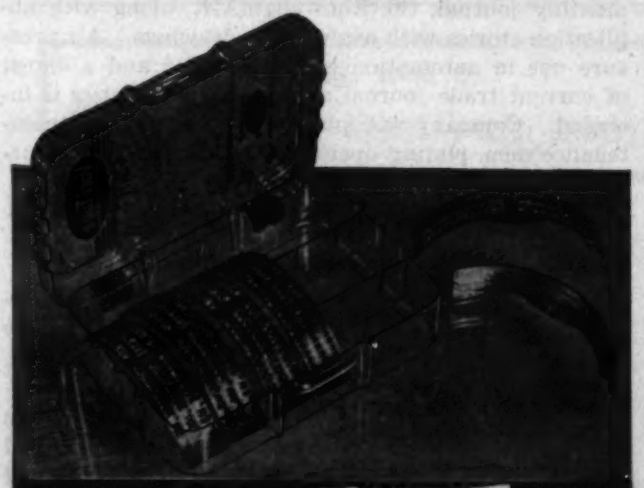
PROFILOMETER EQUIPMENT for surface-roughness inspection in automated production setups

Equipment that inspects for surface-roughness in automated production setups sorts parts according to microinch roughness measured along OD or flat surface, including parts with tapers, grooves or shoulders. Each application is individually engineered. Work pieces go from feed chute onto conveyor which moves them beneath Profilometer tracer. Leaving the tracer, they are automatically directed into "accept" or "reject" discharge chute.



Contact meter is set to high roughness limit, and parts that rough or rougher are rejected—all others are accepted. Equipment can be furnished to accept work within selected range of roughness, rejecting parts that are either too rough or too smooth. Auxiliary items available include equipment for automatic selection of parts to be measured, signal lights and controls to shut down line after given number of parts are rejected. Made by **Micrometrical Mfg. Co.**, Dept. 9, 345 S. Main St., Ann Arbor, Mich.

▲ For more details circle NED-868 K5 on enclosed inquiry slip ▲



Lite-TUFF

PLASTIC BOXES THAT CAN TAKE ABUSE . . . made of Non-Flam* light weight plastic. Standard boxes available in a wide variety of compartment arrangements. Very tough will not crack or shatter in normal use. Resistant to most chemicals—samples supplied for tests.

Full information and PLOT PLAN SHEETS sent upon request . . . Dept. B-10

* Reg. U. S. Pat. Off.

SHOE FORM CO. INC. AUBURN, NEW YORK

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Cut "DOWN" time and Maintenance Costs with the NEW K-500 Drain and Supply line Cleaner — for lines from 1¼ to 12"

Especially designed for industrial maintenance departments the K-500 works wonders in opening clogged industrial or sanitary drains and supply lines. To reduce costly "down" time to a minimum, the K-500 is completely "packaged." The machine, sectional cables and assorted cutting tools are all carried on the ball-bearing wheel dolly from which the machine operates. Easily and safely handled by one man, this rugged and dependable machine drives up to 200' of sectional cable through all traps and bends. (Larger power units are available for longer runs.)
700 R.P.M. cable speed assures fast and complete cleaning. Patented, instant-acting clutch provides finger-tip starting, stopping or reversing. Electric, air or gasoline power.

Hundreds of "famous names" have proved the superiority of Kollmann machines. Ask us about those in your field.

KOLLMANN MFG. CO. • ERIE, PA.

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"SHADE"

Remarkable Vinyl Sheeting that ABSORBS Heat and Glare

SHADE will not become brittle or crack even in temperatures from —25 to 150 F. All you need is a squeegee, a bucket of water, and some pieces of factory pre-cut SHADE to eliminate glare and heat. Easy to apply, permanent and washable, SHADE is custom cut to fit your windows—Order yours today!

The unfiltered rays of the sun, even on a cloudy day, can be a major cause of fatigue. SHADE is a specially formulated compound to filter light!

NO MORE PAINTING
No need for repeated painting of glass surfaces: with SHADE you have an easily applied filter, *bonded* to the glass. It won't crack or grow brittle.

EASY TO APPLY
Application requires no special skill or tools. It is pre-cut at the factory. Wet, place polished side to glass, squeegee out excess water.

PERMANENT
Following out this procedure will effect a sure bond. SHADE will not come off until you pry up a corner and strip it off yourself.

WASHABLE
Can be washed like regular glass. If you wish to remove it, a quick washing in warm water will restore its adhesiveness.

COLOR CHOICES
Colors are available in FROSTED TRANSLUCENT, ARCHITECTURAL BLUE, TRANSPARENT BLUE, FILTERED WHITE, OLIVE GREEN, TRANSLUCENT GREEN and BLACK-OUT BLACK.

TRANSEAL, Ltd.
Dept. NED, 100 Oak Tree Ave., South Plainfield, N. J.
Telephone PLainfield 6-3800

▲ For more details circle NED-871 K5 on enclosed inquiry slip ▲

That vital "ounce of protection" that pays...

BIG DIVIDENDS

Silbhite Plastic Shipping **PLUGS and CAPS**

Low-cost protection against-

- Dirt, dust and moisture
- Thread damage
- Loss of liquids

Here's convenient, inexpensive protection against handling and shipping damage. Used to cover threaded openings and connections, these protective plastic plugs and caps repay their low cost many times over by eliminating unnecessary service and repair work and by reducing customer complaints. They're available for immediate delivery in a wide range of sizes in both threaded and plain types.

Bulletins P-5312 and P-5203 have full details. Write for copies. Dept. 7P.

C-2

THE *Silbhite* PLASTICS DIVISION
DENTAL MFG. CO. 10 East 40th Street, New York 16, N.Y.

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The NEW Standard in Pipeline Economy

Speedline® STAINLESS STEEL FITTINGS REDUCE INSTALLATION COSTS!

EXCLUSIVE TANGENTIAL FEATURE allows:

• More Clearance for Welding • Flanging Without Welding
• Easier Alignment

√ Complete details on how you can reduce your piping costs are contained in this illustrated catalog. Write for your copy today. NO OBLIGATION

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Speedline STAINLESS STEEL FITTINGS

manufactured by HORACE T. POTTS COMPANY
532 East Erie Avenue • Philadelphia 34, Pa.

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RAYMOND

Hydraulic
PALLET LIFT TRUCK

Capacities: 4000 or 6000 lbs.

AMERICA'S HEAVY DUTY Twins!

Hydraulic
SKID LIFT TRUCK

Capacities
2500 lbs.
4000 lbs.
6000 lbs.

● IT'S A CINCH to handle heaviest pallet or skid loads with RAYMOND Hydraulic Lift Trucks! These husky trucks . . . built to deliver years of rugged wear . . . are truly America's heavy-duty twins.

● Both RAYMOND Trucks have powerful hydraulic assemblies to make load-lifting easy. Handles operate with long full strokes . . . or short strokes where space is limited. Handles are pressure-balanced to stay put in any position, won't fall when trucks are not in use.

● These trucks come with convenient finger-tip lowering . . . an exclusive RAYMOND feature. They're highly maneuverable, have full 360° turning radius for steering into or out of close quarters. Specially mounted, machine-faced wheels make 'em easy to pull over roughest floors and on upgrades.

The RAYMOND CORPORATION
4140 Madison St., Greene, N.Y.

Please send literature describing ☐ RAYMOND Skid Lift Trucks ☐ RAYMOND Pallet Lift Trucks ☐ RAYMOND Hydraulic Elevating Equipment Catalog.

NAME TITLE
COMPANY
STREET
CITY STATE

MAIL COUPON

▲ For more details circle NED-875 K5 on enclosed inquiry slip ▲

New Literature and Catalogs

Use of Color Slides

Eastman Kodak Co.—Suggestions for the preparation and effective use of color slide sequences in business and education presentations are provided in 8-page punched pamphlet 7-55L-KP. Space is given such subjects as photographing small objects, diagrams and text slides, duplicates, preparing commentary, presenting the sequence, dissolve projections and special projection equipment.

▲ For more details circle NED-876 K5 on enclosed inquiry slip ▲

Storage Racks & Bins

Bernard Franklin Co.—Comprehensive information, complete specifications and full technical details relative to heavy duty industrial storage racks and bins are given in bulletin 106-NED. Company specializes in custom orders of this precisely engineered steel storage equipment.

▲ For more details circle NED-877 K5 on enclosed inquiry slip ▲

Tape Recording Equipment

A-V Mfg. Corp.—16-page bulletin 103 describes and illustrates nine basic "building block" components, plus series of accessories designed to make up magnetic tape recording systems of from 2 to 14 channels for instrumentation data. Equipment, designated type 7, is for direct recording in the range of 300 to 100,000 cps.

▲ For more details circle NED-878 K5 on enclosed inquiry slip ▲

Infrared Radiation Pyrometers

Servo Corp. of America—Two infrared radiation pyrometers which measure temperature variations by remote detection of infrared radiation are described in 4-page brochure 6-55. Model IR-2 designed for measuring temperatures of moving objects in process has range from 50 to 1000° C. Model IR-1 with range from ambient to 1000° C has ten times faster response and is suitable for very fine measurements.

▲ For more details circle NED-879 K5 on enclosed inquiry slip ▲

Bright Dipping Equipment

Frederic B. Stevens, Inc.—Details of an automatic immersion processing machine designed for the bright dipping of aluminum and/or brass are covered in trade publication reprints available in a folder. Articles cover descriptions of a bright dipping operation employed by a small aluminum and brass forging manufacturer and another employed by major manufacturer and user of brass parts.

▲ For more details circle NED-880 K5 on enclosed inquiry slip ▲

Pneumatic Power Applications

Ross Operating Valve Co.—Fundamentals of pneumatics are discussed in the first edition of this bimonthly journal, the Ross enginAIR, along with application stories with engineering drawings. Air pressure use in automation is also covered and a digest of current trade journal articles on pneumatics is included. Company will place design engineers, maintenance men, plating operating managers and production executives on the mailing list.

▲ For more details circle NED-881 K5 on enclosed inquiry slip ▲

Ceramic Coated Aluminum Tile

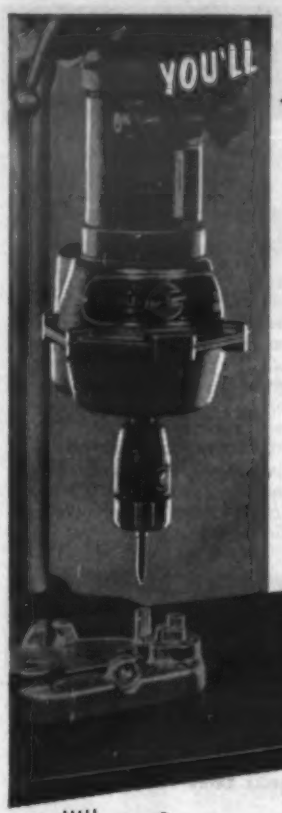
Vikon Tile Corp.—A smooth, glass-hard surface finish that is resistant to chemicals and unaffected by cleaning agents is feature of this aluminum wall tile. It has a porcelain surface that is fused on the aluminum at temperatures of 900-1000° F. An 8-page spiral bound brochure contains full-size samples and smaller pieces showing 12 available colors. Tile will not chip or craze, yet can be cut and bent to fit. Tile and mastic together weigh less than 18 oz per square foot.

▲ For more details circle NED-882 K5 on enclosed inquiry slip ▲

Packaged Motor Drives

Allis-Chalmers Mfg. Co.—Package drives for speed control of machine tools and other applications are subject of 8-page descriptive bulletin 51B8166. Drives are available in five cabinet sizes with motors ranging from 5 to 150 hp. They feature magnetic amplifier generator field control; preset control for repetitive operations; control of all machine functions from one or more remote points; and protection against overload and under-voltage.

▲ For more details circle NED-883 K5 on enclosed inquiry slip ▲



TAP MORE HOLES FASTER and BETTER
with the ALL-NEW
ETTCO-EMRICK
TAPPING ATTACHMENT

And why not? The new Ettco-Emrick Tapper incorporates the most revolutionary tapping attachment design in years. All parts run in a sealed oil bath — resulting in greater sensitivity, longer life, better performance.

But don't take our word for it. Let your Ettco-Emrick distributor show you why. Or better yet — ask to see it demonstrated in your own plant on your own drill presses.

WRITE FOR FREE CIRCULAR
Bulletin 22A has full details and prices.

Ettco-Emrick ETTCO TOOL CO.
INCORPORATED
588 Johnson Ave., Brooklyn 37, N. Y.

▲ For more details circle NED-884 K5 on enclosed inquiry slip ▲

specially engineered SOLENOIDS to fit all of your requirements

When an engineer designs a product requiring a solenoid, the only way he can be assured of trouble-free performance is to have the solenoid equally carefully designed to fit the specific job. That is why ASCO Solenoids are tailor-made, based upon specifications supplied by the manufacturer of the final piece of equipment.

Here's a good example of what we mean. The fuel throttle control solenoid shown in the illustration was specially designed to:

1. Provide unusually high pull for its small size.
2. Cut operating costs through use of low current in sealed position.
3. Be mountable in any position.
4. Have low cost per pound of pull.

As you can see, this ASCO Solenoid is not standard equipment. No one would have it "on the shelf."

If you are considering equipment involving the use of a solenoid, write us. Ask for the "Solenoid Engineering Specification Sheet" on which you can explain the requirements of your design, giving the information we need to analyze your solenoid problem.

ASCO
Automatic Transfer Switches
Electromagnetic Controls
Solenoid Valves
Automatic Switch Co.

379B Lakeside Avenue • Orange, New Jersey

▲ For more details circle NED-885 K5 on enclosed inquiry slip ▲

A Paltier SYSTEM in your plant

Earns You Money Everyday!

1 By reducing the area now required to store your inventory, Paltier EARNS IN RENT MONEY Everyday!

2 By reducing the travel time of your men, they handle more merchandise, Paltier EARNS MONEY In Labor Savings Everyday!

3 By preventing damage in crushing, Paltier EARNS MONEY ORDINARILY LOST Everyday!

There is a PALTIER SYSTEM designed especially for YOU

Write For FREE Catalog

THE PALTIER CORP.
Designers, Engineers and Manufacturers of Engineered Storage Systems

1705 Kentucky Street • Michigan City, Indiana
DISTRIBUTORS IN PRINCIPAL CITIES

▲ For more details circle NED-886 K5 on enclosed inquiry slip ▲

with this new rotary

MAGNETIC BROOM!

Keeps work areas safe, clean—picks up all ferrous scrap, nails, parts, chips, etc. Offset handle permits sweeping inaccessible areas.

Greater-than-ever carrying capacity—rotary action loads full 360° of magnet. More "reaching out" power—permanent magnets guaranteed forever!

No batteries, no electric wires—nothing to get out of order or replace. Water-proof and oil-proof.

Exclusive wiper ring unloads broom instantly and effortlessly. Automatic inertia brake prevents unwanted rolling.

SAVES TIME AND MONEY! Prevents accidents! Promotes better "housekeeping"!

MODEL D-8

$35.25

5 low-price models for every application.

10-DAY FREE TRIAL! Try a Magnetic Broom in your plant for 10 days at no cost or obligation. Write for details today!

MAGNETOOL DIVISION OF MULTIFINISH MFG. CO.

26341 West Eight Mile Road • Dept. 457 • Detroit 19, Mich.

For more details circle NED-887 K5 on enclosed inquiry slip

WHY RE-SHARPEN?

CRESCENT disposable knife blades are custom engineered to your specifications — made of Swedish surgical steels in any length required, width to 2¼ inches and thickness to 0.050-in.

CRESCENT disposable knife blades with razor-honed edges eliminate the cost of re-sharpening dull knives — give you higher production, more uniform product, greater efficiency, and longer cutting life.

CRESCENT engineers will solve your cutting problems, too. At no obligation, write and specify the type of knives you use, how many, what you cut, and how.

Write to: Engineering Department
CRESCENT MANUFACTURING CO.
Fremont, Ohio

For more details circle NED-888 K5 on enclosed inquiry slip

FOR DUST & FUME CONTROL
AIRCONDITIONING
MATERIALS HANDLING

PORTOVENT®

spiral wire reinforced

DUCT

LIGHT • STRONG • RETRACTABLE

Portovent ducts are made from strong cotton nylon fabrics neoprene coated. They are widely used in dust collection, fume control and materials handling applications where lengthwise retractability, lightweight, easy transportation and lowest costs are important.

EXTREMELY EASY TO HANDLE, RETRACT, STOW, DURABLE IN SERVICE

SIZES 3" to 36" i.d.

Also available — Flexaust Hose — close pitch type

WRITE TODAY FOR
Bulletin #40—General Information.
Bulletin #41—Accessories and installation data.
Bulletin #42—Technical data on products and service.
Bulletin #43—Application data and type selector guide.
Bulletin #44—Friction loss data.
Price lists.

Distributors in all principal cities

THE FLEXAUST COMPANY

Dept. NED-10, 100 Park Avenue New York 17, N. Y.

For more details circle NED-889 K5 on enclosed inquiry slip

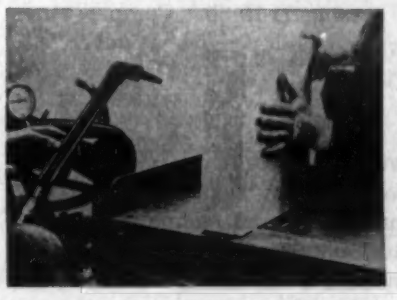
New Processes and Materials

WATERPROOF COATING applied to wet or dry surfaces

Utilizing Alcoa aluminum pigments, Nu-Dri sealers are durable and waterproof, resist corrosion and eliminate caulking and priming. They also insulate and protect. Industrial, canvas, boat and muffler sealers are four forms offered. They can be rolled, brushed or sprayed over virtually any wet or dry surface, including aluminum, brass, copper, steel or galvanized metal. Removal of excessive oil and grease, old paint, rust and scale is required for successful application. Line includes aluminum, buff, blue, black, green and red colors. Made by **St. Helen Products Co., 1611 N. St. Helen Rd., St. Helen, Mich.**

For more details circle NED-890 K5 on enclosed inquiry slip

STRUCTURAL CORE MATERIAL resists fire, moisture and vermin, and can be sawed, cut or nailed



High dimensional stability and resistance to fire and moisture are characteristics of Calsi-Crete structural material which make it suitable for roof decking and as core material for fireproofing doors and partitions. Photo shows 2000° F acetylene flame directed against 3-in. block of Calsi-Crete. Heat transfer to opposite side was nil after ½-hour of being subjected to the flame.

Material weighs from 18 to 40 lb per cu ft, depending on intended use, and has flexural strength of 175 psi, compressive strength of 800 psi and modulus of elasticity of 250,000 psi. It is fireproof, has low water absorption and is frostproof and verminproof. It can be sawed, cut or nailed and provides a fine key for plastering. Additional uses are as sound insulation, packaging material and special applications such as furnace tappers, flue liners or acoustical tiles. Developed by **Jackson & Church Co., 323 N. Hamilton Ave., Saginaw, Mich.**

For more details circle NED-891 K5 on enclosed inquiry slip

Wide Range Work On

SEMCO WIDE RANGE PRESS BRAKES

All are low priced with features you would expect in much costlier presses.
- All Steel Welded Construction
- Heavy Alloy Forged Steel Pitmans with Buttress Threads
- Anti-friction and Bronze Bearings Throughout
- Eccentric Shafts are Heat Treated Alloy Steel Forgings
- Double geared and Twin driven for balanced distribution of power

Extras at no extra cost

- 3" Stroke, 12" Shut Height

Send for NEW catalog illustrating newest models of Press Brakes and including Standard 90 Carbon Forged Steel Press Brake Dies.

Visit us at the Metal Show Booth No. 164-O

SEMCO
SERVICE MACHINE CO., INC.
ESTABLISHED 1919

202 Miller St. Elizabeth 4, N. J.

For more details circle NED-892 K5 on enclosed inquiry slip

HERE'S WHAT YOU WANT TO KNOW about the most sensitive and accurate thermostatic control

Catalog 400 is a reservoir of late and authoritative information about modern thermostatic control. It gives full data on the Fenwal THERMOSWITCH® unit, the control with the single-metal shell which expands or contracts with temperature variation. This shell itself activates the electrical contacts — its response is instantaneous. The Fenwal THERMOSWITCH control is widely used in the newest type aircraft where control must be quick, positive and accurate. It is also widely used throughout industry for temperature regulation in machinery and processing equipment and to control variables of many kinds where temperature is a factor. It is so economical it can be used anywhere.

You should know more about this most modern of thermostatic controls. Our engineers are glad to work with yours on special projects. No charge for Catalog 400. Write Fenwal Incorporated, 810 Pleasant St., Ashland, Mass.

Fenwal THERMOSWITCH®
Electric Temperature Control and Detection Devices
SENSITIVE...*but only to heat*

For more details circle NED-893 K5 on enclosed inquiry slip

this helpful BUYER'S GUIDE to process equipment and engineering

is yours for the asking

Contains pictures, tables and facts on how to get experienced engineering help for the design and construction of processing equipment.

Saves you time when new equipment is needed.

Describes Pfaudler's fields of specialization in project engineering and corrosion engineering which have aided many leading companies to save money.

Send for the BUYER'S GUIDE today.

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For more details circle NED-894 K5 on enclosed inquiry slip

This 8 Page Booklet will help you get *Better Quality Control!*

It tells how a number of precision manufacturers, including the leading automobile companies, use Lake Shore base and surface plates for dynamometers and other test instruments, for layout, mock-up, and inspection. Eight pages, well illustrated, contain application photos, engineers' dimensional drawings, surface tolerances, tensile strength, analysis, and other specifications.

Lake Shore plates are made of fine grained flaw-free "Lakenite" iron . . . and are available machined, ground or hand scraped. Standard plates are available in a wide range of sizes; Lake Shore engineers can design special plates to any size.

Send for your free copy of this helpful booklet.

Please send me a free copy of the new eight page illustrated Lake Shore base plate booklet.

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LAKE SHORE, Inc.
Lake Shore Engineering Division
IRON MOUNTAIN, MICHIGAN

For more details circle NED-895 K5 on enclosed inquiry slip

FREE

VITAL FACTS

For Management, Maintenance, Purchasing and Hygienists

Chapter Summary:

I—Incidence of Occupational Dermatoses
II—Anatomy and Physiology of Skin and Its Appendages
III—Causes of Occupational Dermatoses
IV—Prevention of Occupational Dermatoses
V—Industrial Skin Cleansers
VI—Summary

A milestone in the continuing fight against Industrial Dermatitis

Get this complete, authentic volume prepared by the Association of American Soap and Glycerine Producers, Inc. SBS research was happy to be a part of the group effort that compiled the book. We urge you to send for this milestone in the fight against Industrial Dermatitis.

SBS

Sugar Beet Products Co. Chemical By-Products Division 1004 Wealthy St., Saginaw 41, Mich.

Canadian Subsidiary Chemical By-Products Ltd. 8 Ripley Ave., Toronto 3, Canada

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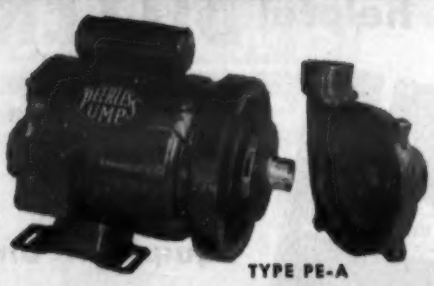
NEW and IMPROVED



TYPE PE-A

THE LEADER IN THE AIR-CONDITIONING FIELD

THE RELIABLE PEERLESS Fluidyne® PUMP

Now Provides
NEW PERFORMANCE
NEW QUALITY
NEW DEPENDABILITY
NEW ECONOMY

LOADED WITH FEATURES: New, durable, ceramic-plastic shaft seal. Long-wearing, stainless steel shaft. More efficient, broader head-capacity performance range. New NEMA type motor. New bronze wear ring in volute to prevent seizing. All bronze impeller.

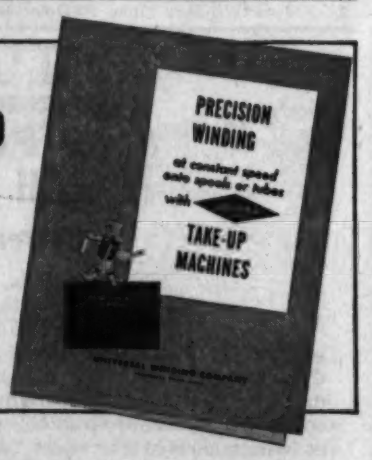
Write for details, prices and performance data. *Request Bulletin No. IW-155.*

PEERLESS PUMPS

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
301 W. Avenue 26
Los Angeles 31, California
New York, Indianapolis, Chicago, St. Louis, Atlanta, Plainview and Lubbock, Texas; Fresno, Los Angeles, Phoenix, Albuquerque.

▲ For more details circle NED-897 K5 on enclosed inquiry slip ▲

Read how to STEP UP your TAKE-UP!



If your product can be traverse wound onto spools, tubes or cones, send for bulletin "*Precision Winding*." It tells you how Leesona Take-Up Machines produce precision wound packages — for sale or further processing — directly from production equipment, at the speed at which the material is fed. Materials taken up by these ultra-modern machines include:

Extruded plastics . . . tapes . . . glass yarn . . . nylon thread . . . narrow flat paper and cellophane.

In these and many other applications, Leesona Take-Up Machines are protecting products, adding sales appeal — *and eliminating rewinding*. Send for these profit-boosting facts today!

UNIVERSAL WINDING COMPANY
P. O. Box 1605, Providence 1, R. I.
Boston • Philadelphia • Utica • Charlotte
Atlanta • Chicago • Los Angeles
Montreal and Hamilton, Canada

LEESONA

▲ For more details circle NED-898 K5 on enclosed inquiry slip ▲

New Literature & Catalogs

Precolored Metal Coil

Southern States Iron Roofing Co.—"Colorweld Coil" described in 4-page bulletin of this title consists of aluminum, cold rolled steel, or other metals offered in coiled strip or sheet form and prefinished in permanent colors. Strip and sheets are roller-enameled in 12 standard colors and come in widths from ½ to 36 in.

▲ For more details circle NED-899 K5 on enclosed inquiry slip ▲

Postmark Advertising

Pitney-Bowes, Inc.—12-page illustrated "Guide to Postmark Advertising" is offered to companies making wide use of the mails. Highlights include five pages of sample postmark ads, a section on how to prepare these postmarks and the concluding section which shows various postage meters that can print these ads.

▲ For more details circle NED-900 K5 on enclosed inquiry slip ▲

Steel Sheets & Strip

Joseph T. Ryerson & Son, Inc.—More than 20 different kinds of flat rolled steel furnished in coils, stock sizes and cut-to-order blanks are listed in 8-page buyer's guide to "Sheets and Strip." Suggestions are given for stock selection and buying to achieve maximum economy in bulletin 20-1.

▲ For more details circle NED-901 K5 on enclosed inquiry slip ▲

Custom-Built Hand Trucks

Leebaw Mfg. Co.—Many samples of materials handling hand trucks designed, engineered and custom-built to customer specifications and job requirements are shown in 4-page catalog L-10-55. Company carries no stock item truck. Units made, however, sell at stock prices or less.

▲ For more details circle NED-902 K5 on enclosed inquiry slip ▲

Vacuum Melted Metals & Alloys

General Electric Co., Carboloy Dept.—Bulletin VM-101 offers 23 pages of general and technical information on vacuum melted metals and alloys. It covers effects of vacuum melting on properties of various metallic materials, benefits of process to user of such metals and fabricating and machining recommendations. New high-temperature alloys M-252 and J-1570 are detailed also.

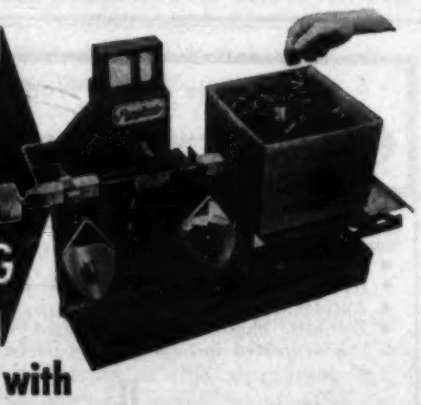
▲ For more details circle NED-903 K5 on enclosed inquiry slip ▲

Welding Cable

United Metal Craft Co., Uniflex Cable Div.—20-page catalog offers for the first time detailed tables to assist in the selection of welding cable in terms of adequate capacity for a given job, current flow and cable length. Tips on reducing welding costs, plus illustrated section devoted to Uniflex products are other highlights.

▲ For more details circle NED-904 K5 on enclosed inquiry slip ▲

Fast . . . Accurate COUNTING



. . . assured with

PENNSYLVANIA SCALES

Customized to Your Requirements

The Model C-200, illustrated, is available in a wide range of Standard Modifications to permit the selection of a Counting Scale to meet your exact requirement.

Manufactured by builders of special counting, weighing and testing equipment for industry . . . Pennsylvania Scales are backed by almost fifty years experience. Nationally sold and serviced by distributors of "Selected Lines" of scales and related equipment.

FREE BOOKLET

Don't Let Hand Counting or Incorrect Counting Scales Waste Your Money. Write today for a "Counting Scale Cost Saving Report" and illustrated brochure of Pennsylvania Precision Scales.

PENNSYLVANIA SCALES
PENNSYLVANIA SCALE COMPANY • KOREVILLE, PA.

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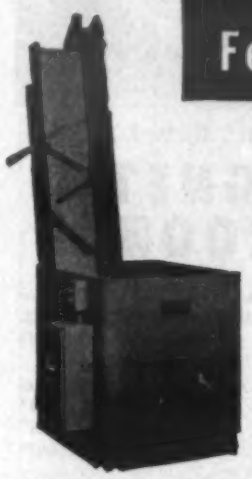
DO YOU HAVE Feeder Problems?



Above is a typical Elevating Feeder. It will deliver either to right or left hand or both.

And who doesn't these days—with the increased demand for faster and more automatic operation of machines and assembly lines. You will find that FEEDALL Automatic Feeders will solve many of your Feeder Problems.

FEEDALL Feeders are made with Blade, Vibratory, Rotary or Elevating Feed as may be best suited to your requirements. Specifications, rate of feed, etc. are variable as may be needed.

Why not tell us your Feeder Problems and let our engineers help you.

FEEDALL INCORPORATED WILLOUGHBY, OHIO

▲ For more details circle NED-906 K5 on enclosed inquiry slip ▲

don't be "sold" . . . get the facts

MAKE UP YOUR OWN MIND

about the metal lathe best for you!

It's a fact! Delta's great new metal lathe has —in less than one year—gained tremendous acceptance throughout industry. Users in the largest industrial plants and the smallest shops all agree that it's the finest 11" metal lathe on the market! Here's how they have "MADE UP THEIR MINDS". . .

R. H. Plourde, N. E. Die Co., Waterbury, Conn.: "Excellent for its power and precision. We intend to standardize on Delta."

E. J. Coats, owner of Pine Grove Mfg. Co., Ripley, Miss.: "We waited a year to get the new Delta Lathe. We certainly wouldn't want to be without it."

R. J. Hood, President of Eastern Tool Co., Hartford, Conn.: "Extremely rugged even compared to costlier lathes. Simple changing of speeds and drives saves us money every day."

D. Hart, Sales Manager of Carros & Hart, Bristol, Conn.: "It's the best lathe of its type. It makes heavier cuts faster than some of the other more costly lathes available."

J. A. Stupian, President of Ordnance Specialties, Inc., El Monte, Cal.: "We chose Delta because of the need for a rugged, yet precision, lathe. Not only is the new Delta lathe capable of outstanding performance, but it is also very economical."

A. Janson, President of Janson Tool & Die Co., Toledo, Ohio: "It's rugged and accurate. We can recommend it to anyone."

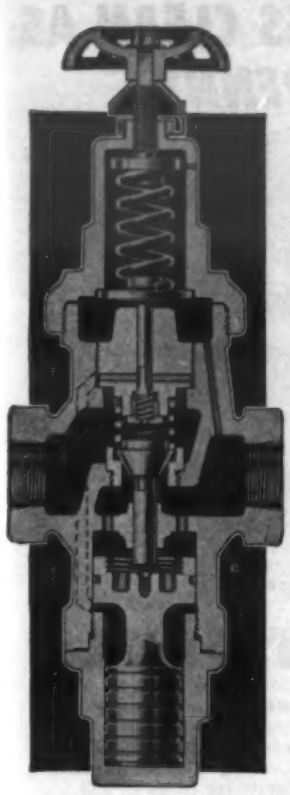
GET ALL THE FACTS—THEN COMPARE. *See this great new Delta Lathe demonstrated—actually try it yourself. Then compare with any lathe of comparable size and MAKE UP YOUR OWN MIND! Your Delta Dealer is listed under "TOOLS" in the classified pages of your phone book.*

DELTA POWER TOOL DIVISION
Rockwell Mfg. Co., 626K, N. Lexington Ave., Pittsburgh 8, Pa.

DELTA ROCKWELL

DELTA QUALITY POWER TOOLS
Another Product by Rockwell
DELTA QUALITY COSTS NO MORE

▲ For more details circle NED-907 K5 on enclosed inquiry slip ▲



FOR ACCURATE Steam Pressures
MASONEILAN NO. 11 Reducing Valve

Field records prove this the most accurate, dependable steam reducing valve in its class. Responds instantly to slightest pressure variations. Superfinished stainless steel pilot valve, housing, and main valve prevent sticking or corrosion. Unusually easy to service — maintenance consists of *little more than keeping the moving parts clean.* All parts may be removed with valve in the line.

Initial pressures up to 250 lbs. reduced to any desired pressure from 10 to 90 lbs., or 75 to 225 lbs. Sizes ½" to 2" with bronze body. Also available in iron and steel.

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN
REGULATOR CO.
1189 ADAMS STREET, BOSTON 24, MASS., U. S. A.

▲ For more details circle NED-908 K5 on enclosed inquiry slip ▲

Weather Sleet Splash PROOF

MERCOID
PRESSURE CONTROL
AVAILABLE IN 17 PRESSURE RANGES FROM
0-30" VAC. TO 300-2500 PSI.
WITH THE SENSITIVITY YOUR APPLICATION REQUIRES

Conforms to Nema specifications 1A (semi-dust tight), 2 (drip tight), 3 (weather resistant, weather proof, splash proof, sleet proof, moisture resistant and rain tight), 4 water tight (hose test).

The cover provides for visible inspection of the sealed Mercoid mercury contact and the calibrated dial. Adjustments are external.

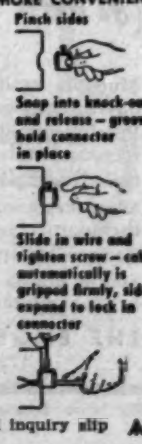
WRITE FOR BULLETIN 14 PW

THE MERCOID CORPORATION
4201 BELMONT AVE., CHICAGO 41, ILLINOIS

▲ For more details circle NED-909 K5 on enclosed inquiry slip ▲

Only T&B 2020* connectors have all these cost-saving features!

INSTALLATION IS EASIER, MORE CONVENIENT



T & B 2020 Connectors have full Underwriter's Laboratories approval. They hold any non-metallic sheathed cable sizes 14-2 to 10-3; 2- or 3-wire cables, also portable cords, etc. — work especially well on currently popular small dimension plastic sheathed cables. Write for samples and descriptive literature. T-511

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street • Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P. Q., Canada
MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898

▲ For more details circle NED-910 K5 on enclosed inquiry slip ▲

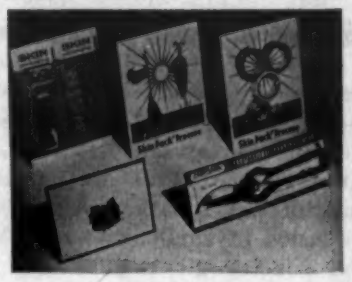
New Processes & Materials

CERAMIC COATINGS allow metal use at 3000-3600° F

Metals exposed to high temperatures can now be coated with Rokide series of high temperature ceramics. This series of coatings allows metals to be used at temperatures ranging from 3000 to 3600° F. In addition to applications on rockets, missiles and ram jet parts, coatings find use in industry where high temperature operations are encountered. Rokide A, which is sprayed in melted form onto metals such as steel, magnesium and aluminum, uses aluminum oxide as a base. Coatings were formulated in cooperation with the Norton Co. by **Bettinger Corp.**, Dept. HTC, Gore St., Waltham, Mass.

▲ For more details circle NED-911 K5 on enclosed inquiry slip ▲

SKIN PACKAGING SYSTEM plastic film vacuum drawn over item



Any shaped item or product can be skin-packaged to cardboard sheets by the Skin-Pack method in which the product itself is the mold. Equipment for skin-packaging is of the two station type. Product is located on cardboard and plastic film is drawn over part. Machine then heats the film, vacuum draws it over the product and seals it to the cardboard. One table or station is loaded while other table goes through vacuum cycle. The No. 30 packaging machine uses up to 24 x 24-in. cardboards, while the No. 40 machine takes a 36 x 36-in. cardboard. Two women workers can package up to 30,000 small articles in one day. Made by **Abbott Plastic Machine Corp.**, 6420 N. Clark St., Chicago 26, Ill.

▲ For more details circle NED-912 K5 on enclosed inquiry slip ▲

FREE MACHINING STEEL PLATE has good welding properties

Thicknesses from ¼ to 3 in. are available in New E-Z-Cut lead bearing free machining steel plate. It has machinability improved over that of sulphur-bearing free cutting steel plate, plus superior welding, polishing and plating properties. Flame cutting, forming, grinding and case hardening characteristics are equal to those of free machining plate previously available with E-Z-Cut name. Addition of lead, which acts as a lubricant to the cutting tool, lessens friction, thereby requiring less cutting power. Chip formation is better and tool life is increased. Made by **Joseph T. Ryerson & Son, Inc.**, Alloy Div., Box 8000-A, Chicago 80, Ill.

▲ For more details circle NED-913 K5 on enclosed inquiry slip ▲

Hands are Safer with Schrader® Press Control

Schrader Press Controls help increase production by building operator confidence. The system is designed so that the machine will not work unless *both* hands are on the controls, safely out of danger. Neither valve can be tied down to get one-hand operation.

Foot-Control Attachments are also available.

For complete information, write for the free Schrader Catalog, describing all Schrader Air Control Products.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Dept. S-10, Brooklyn 38, N. Y.

▲ For more details circle NED-914 K5 on enclosed inquiry slip ▲

If you DRILL MASONRY You Need This *Manual*

and you need

New England CARBIDE-TIPPED **MASONRY BITS**

ROTARY TYPE *Cyclo-twist* and *Cyclo-Core*
HAMMER TYPE *Thunder-twist* and *Thunder-Core*

TO DO ANY MASONRY DRILLING JOB QUICKER AND MORE ECONOMICALLY

ANY MASONRY Soft, Hard or Extra Hard.
ANY SIZE HOLE from ⅛" to 6".
ANY DEPTH HOLE up to 36" deep.
ANY DRILL Electric Rotary or Power Hammer.

SEND for your *Free* COPY TODAY!

THE WORLD'S ONLY COMPLETE LINE
NEW ENGLAND CARBIDE TOOL CO., INC.
60V Brookline Street Cambridge 39, Mass.

▲ For more details circle NED-915 K5 on enclosed inquiry slip ▲

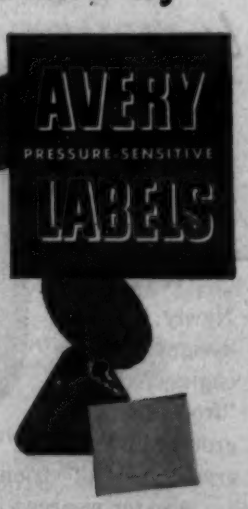
Added Evidence that . . . Everyone Can Count on **VEEDER-ROOT**

In figuring out new systems of automatic electrical control, Veeder-Root *Count*rol can supply vital connecting links. For instance, this Predetermining Counter can be hooked into such a system to light a light, ring a bell, or actuate a mechanism to stop a machine or process *at any pre-set point.* And there are many other Veeder-Root Counters that can serve as "countponents" in almost any way desired. Or special counters can be designed for specific applications.

VEEDER-ROOT INCORPORATED
Hartford 2, Connecticut
"The Name That Counts"

▲ For more details circle NED-916 K5 on enclosed inquiry slip ▲

For *instant* identification try *Color coding* with AVERY PRESSURE-SENSITIVE LABELS



Hundreds of manufacturers and businesses—from a San Antonio bakery to a New England thread mill—have turned to quick visual color coding with Avery pressure-sensitive Labels.

Instant dating and identification of the contents—by quality or quantity—saves valuable time and prevents costly errors—ends stockroom confusion!

Four basic labels can give almost any amount of data needed—they can be preprinted with standard information, then imprinted for each particular job *as it is used!*

Get the facts on how Avery can help solve *your* labeling problems—mail the coupon today!

Kum-Kleen
KUM-KLEEN when you want a REMOVABLE label.

Perma-grip
PERMA-GRIP when you want a PERMANENT label.

AVERY ADHESIVE LABEL CORP., Custom Div. 102
117 Liberty St., New York 6
608 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif.
Offices in other principal cities

☐ Please send me case histories on color coding and free samples.
☐ Please have the Avery man call.

NAME
COMPANY
ADDRESS
CITY ZONE STATE
OUR BUSINESS IS

▲ For more details circle NED-917 K5 on enclosed inquiry slip ▲

new! FLEXIBLE
VARNISH coating for PRINTED CIRCUITS

Schenectady #642 Insulating Varnish* provides the first practical solution to problems of arc-over and humidity in modular and printed circuit assemblies.

For more flexible than conventional coatings, #642 Varnish can be baked or air-dried to a tough, resilient coating that completely seals the laminate and component leads against arc-producing moisture. A 2½ mil coating of this water-light varnish withstands 1250 volts—even after 72 hours exposure at 100% relative humidity—without arc tracking or charring.

Write or wire today for complete details on this unusually flexible and durable insulation—the first varnish designed especially for printed circuits.

insl-x SCHENECTADY

* One of the complete line of insulating compounds made by the Schenectady Varnish Co., and the Insl-X Co., now available to electronic equipment manufacturers through:

Insl-x Sales Company 26 Rittenhouse Place, Ardmore, Pa.

For more details circle NED-921 K5 on enclosed inquiry slip

it's yours—all yours

Kleenslot
REG. U.S. PAT. OFF.
WEDGE WIRE MAKES MARCEL-TYPE SCREENS FOR
DEWATERING
SIZING
AND SCREENING
OPERATIONS

Please note that the illustration of this screen shows a marcel type of construction. It was specially designed for rough and abrasive type of materials, to give long life, non-blinding operation and still present a flat surface for materials to wipe the opening CLEAN. The same dewatering efficiency is prevalent and we might add that this screen was also designed for operations where slivers of materials passing through are objectionable in the end product. Made in all sizes and shapes wherever applicable to higher and productive efficiency.

Wedge-Wire CORPORATION
GAS STREET AT NICKLE PLATE R. R. WELLINGTON, OHIO

For more details circle NED-922 K5 on enclosed inquiry slip

Safety Products Division

Yes it's a Safety Goggle!
NEW AO† F9500 with "ULTRASCOPIC VISION"

Newly designed and engineered "from the ground up" . . . greater field of vision . . . greater wearer acceptability . . . many new features . . . made to last longer for true economy. Be sure to see this plastic goggle and *also* new companion metal goggle F5100. Ask your AO Safety Products Representative.

American Optical

†T.M. Reg. by American Optical Co.

Always insist on Trademarked Lenses and Frames

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

For more details circle NED-923 K5 on enclosed inquiry slip

New Literature & Catalogs

Marking Devices

Merkert & Sons—20-page catalog on "Steel Stamps and Marking Devices" lists steel and brass stamps, type and dies; roller dies and knurls; embossing dies; steel type and type holders; machine engraving instruments; dies, molds and plates; burning brands; steel letters and figures; metal checks and name plates; and rubber stamps.

For more details circle NED-924 K5 on enclosed inquiry slip

Air Compressors & Spray Guns

Bell & Gossett Co.—Features, construction, specifications and other data relative to line of oil-free air compressors and spray guns designed for this line of equipment are provided in 12-page brochure GO-1254. Compressors covered include 35 and 75-psi single stage, twin cylinder units and a two stage unit capable of developing 175-psi maximum operating pressure.

For more details circle NED-925 K5 on enclosed inquiry slip

Immersion Heating Equipment

Eclipse Fuel Engineering Co.—Line of immersion heating equipment used for low temperature metal melting, heating of plating solutions, pasteurizing, cleaning parts, salt descaling, heating asphalt and large volume water heating is described in 4-page bulletin H-11. Data covers selection, sizing and installation of equipment; heat loss; burner selection; and eductor air requirements.

For more details circle NED-926 K5 on enclosed inquiry slip

Welding Alloys & Fluxes

All-State Welding Alloys Co.—Data on 15 alloys not previously cataloged are found in 32-page pocket-size "Buyers Guide to Complete Line of All-State Alloys & Fluxes." It offers aid in selection of specialty alloys and fluxes for wide variety of applications. Jet Flux automatic fluxing system is described.

For more details circle NED-927 K5 on enclosed inquiry slip

Aluminum Alloys

Peter A. Frasse & Co.—General properties, fabricating characteristics, typical applications and available size ranges are given for each commercial aluminum alloy detailed in 6-page illustrated folder. Also included are alloy designation, weight comparison and temper designation charts.

For more details circle NED-928 K5 on enclosed inquiry slip

Molded & Extruded Rubber Products

Tyer Rubber Co., Industrial Products Div.—Rubber Engineering Data Book of 12 pages contains illustrations and descriptions of line of molded and extruded rubber products, including custom-built seals, boots, gaskets, rolls, covers, sleeves, shields and shock mounts. Technical specifications and relative properties of natural rubber, Buna S, Buna N, neoprene, butyl, thiokol and silicone are given.

For more details circle NED-929 K5 on enclosed inquiry slip

Stainless Tubing, Parts & Specialties

J. Bishop & Co. Platinum Works, Stainless Steel Products Div.—Line of cold drawn mechanical, capillary and hypodermic tubing from 0.008 to 1.000 in. OD, nickel and nickel alloy tubing and tubular fabricated parts are described in illustrated catalog No. 11. Data are given on comparative analysis of alloy types, specifications, standard tolerances, physical properties and relative workability.

For more details circle NED-930 K5 on enclosed inquiry slip

Rod Parters

O'Neil-Irwin Mfg. Co.—Aid in selecting and operating a Di-Acro rod parter is furnished by this 16-page illustrated manual. It can cut round, square, rectangular and hexagon bar stock without rough edges or burrs. Cold rolled steel, chrome, molybdenum, stainless, steel, full hard copper, brass and aluminum can be parted. Operating, lubricating and maintenance data are included.

For more details circle NED-931 K5 on enclosed inquiry slip

Wire Rope Assemblies

American Chain & Cable Co.—24-page illustrated catalog TL 500 covers wide range of Tru-Loc fittings and Tru-Loc wire rope assemblies. It shows many possible combinations of standard fittings and assemblies, and includes reference charts, tables and drawings. Among fittings illustrated are yokes, sleeves, eyes, hooks, buttons and balls.

For more details circle NED-932 K5 on enclosed inquiry slip

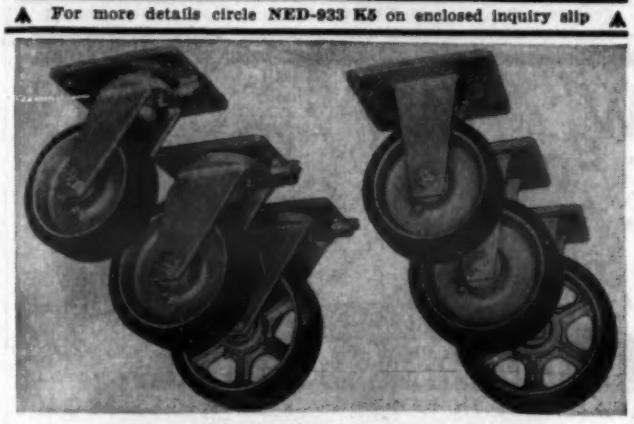
KEEP PIPELINES CLEAN AS A NEW PENNY

ANDERSON STRAINERS

KEEP PIPELINE DIRT AND SCALE from damaging pumps, air tools, reducing valves, temperature regulators, steam traps FREE Valuable tips on protecting pipeline equipment. Write for Bulletin 252

The V.D. ANDERSON Company
1958 West 96th Street • Cleveland 2, Ohio
A Subsidiary Chesapeake Industries Inc.

For more details circle NED-933 K5 on enclosed inquiry slip



New "MilSpec" Casters

Bassick's new "MilSpec" line meets military specifications for precision casters built to highest quality standards.

This new line includes 8, 10 and 12 in. heavy-duty swivel and rigid casters designed for inside or outside service on either hand- or power-pulled equipment.

Sealed construction protects both swivel and wheel bearings. Threaded king bolt and slotted nut permit fine adjustment of swivel bearing.

Write for "MilSpec" data to THE BASSICK COMPANY, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

Bassick A DIVISION OF STEWART SW

MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

For more details circle NED-934 K5 on enclosed inquiry slip

New ENGELBERG

MULTIPLE-HEAD CONVEYOR-TYPE ABRASIVE BELT GRINDER

BOOSTS PRODUCTION UP TO 100% (or more!)

MODEL 680

- Multiple heads combine several operations on one machine
- Precision-finishes ferrous or non-ferrous metals, plastics, etc.
- Grinds and polishes faster
- Simplifies fixtures—or eliminates them entirely
- Reduces set-up time substantially
- Single, double or any number of heads available

SEND US a sample or print for cost and time-savings estimate. Or ask to have one of our production engineers call to discuss your grinding problems. No charge — no obligation. Write for full information.

THE ENGELBERG HULLER CO., INC.
172 Seneca Street, Syracuse, N. Y.

For more details circle NED-935 K5 on enclosed inquiry slip

Low-cost case marker saves $

pays for itself in weeks!

ROLACODER Imprinter attaches to conveyor or case-sealer

Now you can do away with that costly extra operation for manual rubber-stamping or stencilling of code-dates, lot numbers, contents descriptions, etc. on cases... or reduce big inventories of completely printed cases... and save thousands of dollars annually. Use an inexpensive ROLACODER machine to mark your cases automatically on the production line. Compact, precision-made ROLACODER is friction-operated, self-inking—makes single, accurately located imprint on each case to register with other copy. Uses quick-change rubber type or dies, holds 8-hour ink supply. Different models available to imprint top, ends, sides of small or large boxes, cartons, cases, other packages.

Write for descriptive literature

Gottscho — ADOLPH GOTTSCHO, INC. Dept. N, Hillside 5, N. J. — Automatic CODING, MARKING, IMPRINTING MACHINES

In Canada: RICHARDSON AGENCIES, LTD., Toronto & Montreal

▲ For more details circle NED-936 K5 on enclosed inquiry slip ▲

Compounds based on BAKELITE BRAND Epoxy Resins cut production costs, tooling time!

An important cog in this nation's defense is this Air Force jet fighter, the F101A "Voodoo." By using laminated epoxy tooling, **McDonnell Aircraft Corporation,** its manufacturer, has reduced cost and speeded production of aircraft and helicopter components, some of which are incorporated in this plane.

Faster, less expensive production of interchangeable aircraft components is made possible by the advantages of "Ren" tooling compounds based on BAKELITE Brand Epoxy Resins. For instance:

- Overall savings as high as 40 per cent have resulted where tools are adaptable to plastic.
- Weight of plastic tools is only 25 per cent that of similar steel or kirksite tools, 60 per cent that of aluminum tools.
- Savings in tooling-up time are as much as 40 per cent when compared with conventional tooling materials.
- Up to 75 per cent of all the interchangeable door panels in one aircraft have been assembled and coordinated with tools made of BAKELITE Epoxy Resin—glass cloth laminates.

Epoxy plastic tooling compounds enabled this aircraft manufacturer to take advantage of the savings above. Compounds are a product of **Ren Plastics, Inc.,** (formerly Ren-ite Plastics, Inc.), P. O. Box No. 1256, Lansing 4, Mich.

Visit BAKELITE'S exhibit, Booth 1375, Nat'l Metal Exposition Oct. 17-21, Phila., Pa.

BAKELITE BRAND EPOXY RESINS

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation UCC
30 East 42nd Street, New York 17, N. Y.

The term BAKELITE and the Trefoil Symbol are registered trade-marks of UCC.

▲ For more details circle NED-937 K5 on enclosed inquiry slip ▲

New Processes & Materials

FLOOR REPAIR COMPOUND improved with new binding ingredient

Roc-Wood floor surfacing material has been improved with new binding ingredient which permits its application to any slick concrete, wood or metal sur-

face without preparatory roughening or chipping. Compound consists of hardwood fibers mixed with indestructible liquid binder which dries by chemical reaction. It resists many acids, grease and oil, and is unaffected by heat or cold. Trowel-applied at room temperature, product is suitable for indoor or outdoor use over old, cracked, worn and broken floors; loading docks; driveways; stair treads; ramps; ship decks and garage floors. It can also be used for complete resurfacing, as well as on new concrete. Made by **Roc-Wood Flooring Industries, Inc.,** Dept. NE-9, 907 N. Larrabee St., Chicago, Ill.

▲ For more details circle NED-938 K5 on enclosed inquiry slip ▲

FILTER CARTRIDGES standard units of glass fiber

Scientifically graded Glas-Kleer filter cartridges are offered in 2, 10, 25 and 50-micron grades to fit standard filter containers. Throw-away type units are made of super fine glass fibers which possess high chemical and temperature resistance and are nonabsorbing. Each cylinder is lined with glass fiber cloth to insure lint-free filtration and has variable density for long life and high holding capacity. Made by **Porous Plastic Filter Co.,** Dept. PT, 30 Sea Cliff Ave., Glen Cove, N. Y.

▲ For more details circle NED-939 K5 on enclosed inquiry slip ▲

HYDRAULIC FLUID is fire-resistant and stable

Recently listed by Underwriters' Laboratories with a fire hazard rating of 2-3, Pydraul F-9 is reportedly the first synthetic hydraulic fluid to be UL-listed. This rating is based on standard classifications in which gasoline is rated 90-100; ethyl alcohol, 60-70 and paraffine, 10-20. This fire-resistant, stable, non-corrosive fluid provides a lubricity equivalent to premium-grade petroleum fluids. It can be used safely in hydraulic equipment operated near heat or other potential ignition sources. Developed in 1950 by **Monsanto Chemical Co.,** Dept. NE, 800 N. Twelfth Blvd., St. Louis 1, Mo.

▲ For more details circle NED-940 K5 on enclosed inquiry slip ▲

TOOL OIL & LAYOUT DYE packaged in tool box size cans

Now available in handy tool box-size containers are Starrett tool and instrument oil and Kleenscribe layout dye. Oil is highly refined, clear lubricant used for fine instruments, micrometers and other tools. Layout dye is applied with brush in container cap, dries instantly to an opaque, no-glare finish and will not rub or flake off. It can be easily removed with denatured alcohol. Made by **L. S. Starrett Co.,** Dept. ED, Athol, Mass.

▲ For more details circle NED-941 K5 on enclosed inquiry slip ▲

Norgren Spray-Lube DOUBLES OUTPUT OF VERTICAL TURRET LATHE

- stepped up surface cutting speed from 45 to 75 rpm.
- eliminated welding of chips on cutting tool.
- ended galling of work pieces.
- increased depth of cut.
- reduced tool maintenance.
- improved quality of work.

WRITE FOR COMPLETE DATA

C. A. Norgren CO. 3405 So. Platt, Englewood, Colo.

▲ For more details circle NED-942 K5 on enclosed inquiry slip ▲

Specify Low Cost—Long Life DEPENDABLE GRAYMILLS COOLANT PUMPS

Graymills Coolant Pumps or complete systems to fit any standard machine tool can be easily installed in minutes. Dependable, long wearing, economical to use, 38 standard models are available and can be used with liquids bearing abrasives. Stocked by distributors everywhere.

Write for catalog

GRAY-MILLS

GRAYMILLS CORPORATION
3717 N. LINCOLN AVE. CHICAGO 13, ILLINOIS

▲ For more details circle NED-943 K5 on enclosed inquiry slip ▲

PANALARM "50VS" VISUAL SEQUENCE ANNUNCIATOR*

analyzes the cause of trouble

Eliminate guesswork... Panalarm "50VS" will pinpoint trouble for you in any automatic or semi-automatic process. It visually indicates the first "off-normal" of a related group with a flashing red signal; subsequent "off-normals" with white. Moreover, any or all signals in the system may be grouped sequentially for easy interpretation.

Visual sequence makes Panalarm the most practical and useful audio-visual annunciator available today. *Write for Bulletin 6-A.*

PANALARM Division of PANELLIT, Inc.
7421 North Hamlin Avenue • Skokie, Illinois

▲ For more details circle NED-944 K5 on enclosed inquiry slip ▲

UNIQUE *new* PORTABLE TELEPHONE UNIT

a complete intercom package

DESIGNED FOR SERVICE AND EMERGENCY CREWS

Lightweight and completely portable communications unit using Wheeler Sound Powered Electric Telephone Handsets, which require no batteries or outside power . . . the voice itself generates the current. This unit consists of two handsets, each equipped with 4-ft. Neoprene covered Koiled Kord retractile-type cables, 250 ft. of 2-conductor heavy duty Neoprene covered cable, and the special reel which is designed to permit clear, undistorted speech transmission at any distance up to 250 ft. even while unwinding. Additional 150 ft. of cable can be supplied and stored on reel if desired.

- NO BATTERIES
- NO MAINTENANCE
- NO OUTSIDE POWER
- TROUBLE-FREE SERVICE
- NO ELECTRICAL HAZARDS

Thoroughly engineered and service-proved equipment . . . rust and corrosion resistant. Write for full information.

WHEELER *Sound Powered Electric* TELEPHONES

THE WHEELER INSULATED WIRE CO., INC.

Division of Sperry-Rand Corp.

1106 East Aurora Street Waterbury 20, Connecticut

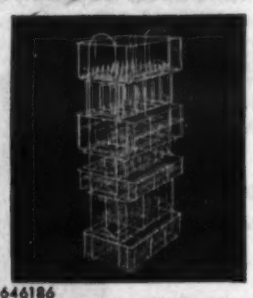
1WHS5

▲ For more details circle NED-945 K5 on enclosed inquiry slip ▲

EEZY-STAK BASKETS for Better Parts Handling

EEZY-STAK BASKETS SIMPLIFY PARTS HANDLING...CUT COSTS...REDUCE REJECTS!

WIPCO manufactures a complete line of Custom-Designed stacking (Eezy-Stak) and non-stacking baskets for handling all types of parts through every production and assembly process. WIPCO baskets can be made in any desired size or shape, and from any practical material.



Eezy-Stak baskets feature the exclusive Interlock Handle* which permits easy and safe stacking. Eezy-Staks are available in a wide range of standard sizes and metals which fit most parts-handling requirements. Write today for Bulletin B-54.

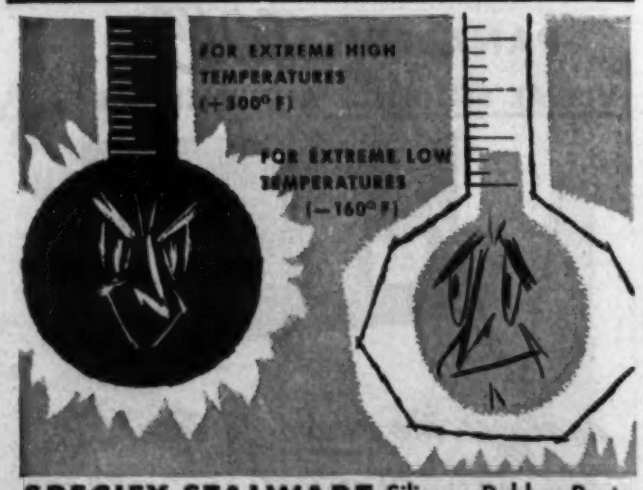
*Pat. No. 2646186

WIPCO BASKETS . . . *FROM INITIAL MACHINING TO FINAL ASSEMBLY AND SHIPPING*

WIRE AND IRON PRODUCTS INC.

1727 SIXTEENTH ST. • DETROIT 16, MICHIGAN

▲ For more details circle NED-946 K5 on enclosed inquiry slip ▲



SPECIFY STALWART Silicone Rubber Parts

For Silicone rubber parts that give maximum performance at searing temperatures up to +500° F...retain their elasticity down to −160° F ...or have the physical, chemical and dielectric properties to resist chemicals...it will pay you to see STALWART first! From stocks compounded for specific job requirements, STALWART will mold, extrude, die-cut, lathe-cut, or mandrel-build parts to meet individual, S.A.E. or A.S.T.M. specifications. Bring your rubber problems to STALWART... specialists in the custom-fabrication of precision Silicone parts.

For detailed information write for Catalog S15R-1

STALWART RUBBER CO.

MANUFACTURING PLANTS IN BEDFORD, OHIO AND JASPER, GEORGIA

MAIN OFFICES 151 NORTHFIELD ROAD, BEDFORD, OHIO

▲ For more details circle NED-947 K5 on enclosed inquiry slip ▲

New Literature & Catalogs

Radio & Electronic Parts

Allied Radio Corp.—Over 26,000 items are listed in the 324-page illustrated 1956 catalog of this company, distributors of radio and electronic parts and equipment. Emphasis is placed on equipment for industrial maintenance, research and production requirements. Among products are standard and special electronic tubes, test instruments, transformers, resistors, capacitors, printed circuit components, relays, rheostats, counters, sound-powered telephones and tools.

▲ For more details circle NED-948 K5 on enclosed inquiry slip ▲

Industrial Enclosed Switches

Minneapolis-Honeywell Regulator Co., Micro Switch Div.—28-page catalog No. 83 describes wide variety of enclosed switches designed for use on either alternating or direct current industrial applications. Covered are general purpose, sealed, heavy-duty limit, hand operated and maintained-contact switches, all available in variety of actuator designs, contact arrangements and electrical ratings.

▲ For more details circle NED-949 K5 on enclosed inquiry slip ▲

Flexible Metal Hose

Universal Metal Hose Co.—Use and application data on flexible metal hose products is provided in compact reference manual U-333. These products made in bronze, carbon steel, Monel, nickel or stainless span the complete range of flexible metal hose types to compensate for varied pressure conditions, elevated temperature, motion, and vibration for wide range of conveyance problems.

▲ For more details circle NED-950 K5 on enclosed inquiry slip ▲

Controlled Humidity Chamber

Blue M Electric Co.—Vapor-Temp annular, mechanical convection, controlled relative humidity chamber is subject of 4-page bulletin 5525. It permits many humidity tests to be conducted simultaneously. Relative humidity is controlled within ±1 per cent.

▲ For more details circle NED-951 K5 on enclosed inquiry slip ▲

Punch Presses

Kenco Mfg. Co.—Construction features of 1½ to 15-ton punch press line said to eliminate downtime, increase press life and assure precision punching are detailed in 4-page illustrated folder. The 1 9/16-in. ram hole accommodates any standard die set.

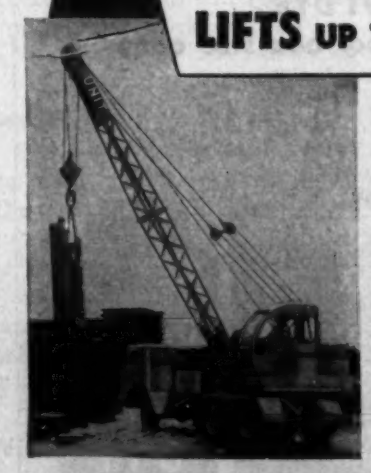
▲ For more details circle NED-952 K5 on enclosed inquiry slip ▲

Coil Winding Machine

Arnold Magnetics Co.—Portable toroidal coil winding machine for both laboratory and production requirements is described in 4-page illustrated folder B-4. Its specifications are given. Machine accommodates range of wire sizes from AWG 26 to 44.

▲ For more details circle NED-953 K5 on enclosed inquiry slip ▲

UNIT *Challenger* ... as a CRANE LIFTS UP TO 8 TONS



Economical IN OPERATION

Efficient IN ITS PERFORMANCE

Here's a handy crane for ALL types of material handling jobs . . . on or off the highway . . . or in the yard. You'll find the UNIT Challenger is built for speed, accuracy and easy handling. It's TOPS in performance, yet economical in operation. And the Full Vision Cab promotes safety. Write for Bulletin C-800.

UNIT CRANE & SHOVEL CORP.

6607 West Burnham Street • Milwaukee 14, Wisconsin, U. S. A.

UNIT

CRANES CLAMSHELLS MAGNETS

▲ For more details circle NED-954 K5 on enclosed inquiry slip ▲

Are you still depending on Natural Draft?

Install a WING motorized DRAFT INDUCER —and end your draft troubles

No more will you have to worry about the effect of weather conditions on your furnace, about lack of draft due to cold chimney after shutdown, about smoke, soot or gases due to poor draft, or low CO_2 resulting in high fuel bills. The WING Draft Inducer eliminates all these troubles, insuring positive, adequate, uniform draft at all times. *Write for Bulletin.*

L. J. Wing Mfg. Co. 165 Vreeland Mills Rd., Linden, N.J.

▲ For more details circle NED-955 K5 on enclosed inquiry slip ▲

How to Cut Cleaning Costs with WASTE RECEPTACLES

IN YOUR PLANT

Everybody is automatically a member of your cleaning department by conveniently placing Bennett Bilt Waste Receptacles to invite their use. These waste receptacles are sanitary, economical and a major help to cleanliness and neatness. Put them to work for you and reduce cleaning costs.

BENNETT

WASTE RECEPTACLES HAVE ALL THESE FEATURES

- Non-rusting stainless steel feet eliminate rusting and rust marks
- Made of extra heavy-gauge corrosion resistant steel
- All welded construction
- Smooth exterior surface . . . nothing to catch and tear clothes
- Reinforced corners
- Self-closing mechanism assures closed doors when not in use and permits easy opening of independent doors with finger-tip pressure
- Rounded corners for structural strength and pleasing appearance
- Baked enamel finish . . . white or green

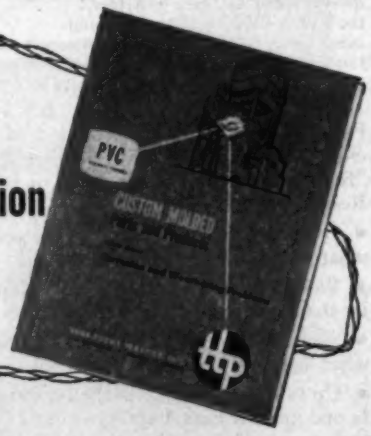
• These are a few of the many features that make Bennett Bilt Waste Receptacles a natural "buy".

THE BENNETT MANUFACTURING COMPANY

ALDEN, N. Y.

▲ For more details circle NED-956 K5 on enclosed inquiry slip ▲

How to solve corrosion problems



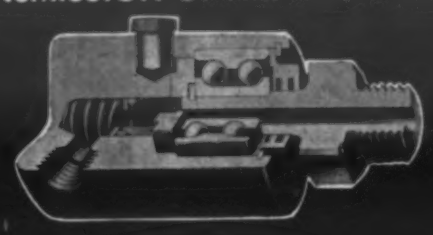
Specify PVC custom molded parts and products

Tube Turns Plastics, Inc., can give you outstanding product advantages with custom moldings made by the exclusive Hendry Process. These injection-molded PVC (polyvinyl chloride) products solve corrosion and weathering problems and provide exceptional strength, ductility, dimensional stability and resistance to aging. Bulletin suggests broad applications and gives details on properties. Write Tube Turns Plastics, Inc., Dept. E-10, 2929 Magazine, Louisville 11, Kentucky.

TUBE TURNS PLASTICS, INC.

▲ For more details circle NED-957 K5 on enclosed inquiry slip ▲

FAWICK ROTORSEAL
PROVIDES TROUBLE-FREE TRANSMISSION OF AIR AND LIQUIDS



If your machine problem requires the transmission of air or liquids from stationary to rotating machine members, a FAWICK ROTORSEAL will provide the trouble-free, practical answer.

Precision-made ROTORSEALS are available in either single or multiple passage units, producing an absolute sealing of air, liquids, or gases under pressure. They are equally effective in vacuum applications. Thousands of installations have proved the high efficiency of FAWICK ROTORSEALS.

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 CLINTON ROAD
CLEVELAND 11, OHIO
In Canada: Fawick Canada, Ltd., Toronto—Montreal

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

Write for ROTORSEAL Bulletin ML-6.

▲ For more details circle NED-958 K5 on enclosed inquiry slip ▲

BEARING TROUBLES?

▲ For more details circle NED-959 K5 on enclosed inquiry slip ▲

New Processes & Materials

PLASTIC COATED STEEL TAPE
covered with any of three plastics

Strength of steel is combined with dielectric properties, abrasion resistance and other service factors of plastic in Met-L-Tape, a plastic covered metal tape. Basically a high tensile steel strap like that used for heavy packing, it has an extruded coating of vinyl, nylon or polyethylene plastic to protect it from corrosion. Tape can be fastened by bolts or rivets or, by stripping a section of the plastic to expose the metal, it can be spot welded. Coatings are available in any color and can be heat sealed at the ends. Made by **Garrison Co.**, 210 Front St., South Plainfield, N. J.

▲ For more details circle NED-961 K5 on enclosed inquiry slip ▲

CUSHIONING MATERIAL
for packaging delicate parts

Delicate instruments and machinery can be protected during shipment by Fiberglas package cushioning material. It is made in various densities up to 30 lb per cubic foot and is highly resilient, unaffected by changes in temperature or humidity and will not mildew. Inorganic material is dimensionally stable, fire resistant, odorless and moisture resistant. Various thicknesses in sheets or rolls are available. Product meets military specifications. Made by **Owens-Corning Fiberglas Corp.**, Nicholas Bldg., Toledo 1, O.

▲ For more details circle NED-962 K5 on enclosed inquiry slip ▲

CLEANSING SOLVENT
removes grease, wax, oil and tars

Cleaning properties resembling those of carbon tetrachloride with 20 times less toxicity are reported for C-I-SOL cleansing solvent. Product is recommended for removing grease, wax, oil and tars from metal products, tools, machine components, sheet metal or tubing. It is also nonflammable and adaptable to cold, dip and bucket cleaning techniques. Available in 1, 5 and 55-gal containers from **Chem Industrial Co.**, Dept. N, 3784 Ridge Rd., Brooklyn 9, O.

▲ For more details circle NED-963 K5 on enclosed inquiry slip ▲

Jeffrey WAYTROL
feeds and weighs continuously

The Jeffrey WAYTROL Constant Weight Feeder provides guaranteed accuracy. WAYTROLS and related equipment like units shown are now serving many industries handling scores of products in weighing and proportioning systems.

Other Jeffrey Vibration Equipment

FEEDERS CONVEYORS
DRYERS SCREENS
PACKERS CONTROLS
COOLERS BATCHERS

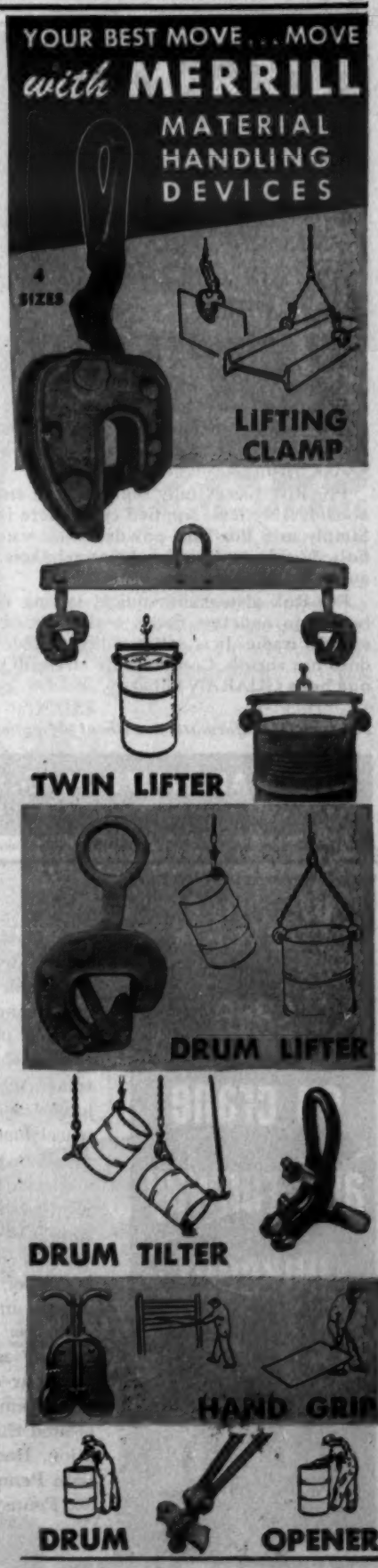
For Information Write
The Jeffrey Mfg. Co., Columbus 16, Ohio

JEFFREY

CONVEYING • PROCESSING • MINING EQUIPMENT • TRANSMISSION MACHINERY
CONTRACT MANUFACTURING

▲ For more details circle NED-964 K5 on enclosed inquiry slip ▲

YOUR BEST MOVE . . . MOVE *with* MERRILL
MATERIAL HANDLING DEVICES



For Interesting Information write

MERRILL BROTHERS
56-13 Arnold Ave. Maspeth, N. Y.

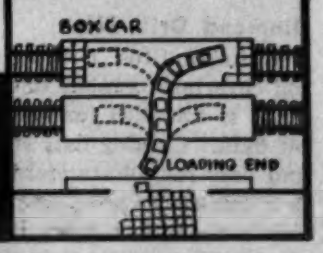
▲ For more details circle NED-965 K5 on enclosed inquiry slip ▲

ONE MAN "*Pushbutton Loading*" OF BOXCARS

Send for literature

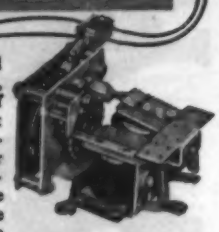
The NEW Sheehan stacking unit combined with the "Flex-Bend" conveyor provides a boxcar loader of unsurpassed performance. One man operating the pushbutton controls located at the stacker end has only to guide the items into place. Forward and backward movement of the complete unit, as well as up and down movement of the boom is controlled at the stacker end. The flexible belt conveyor bends on a 72 inch radius with rate of belt travel adjusted to application. This unit can be adapted to industrial, warehouse and other loading applications.

Illustrated unit is designed to load rice bags into two cars side by side. It stacks 8 bags per minute to a height of 6 feet. The belt is 18" wide and overall length of unit is 37½ feet.



R.T. SHEEHAN CO.
8070 N. TERRITORIAL RD. PLYMOUTH, MICHIGAN

▲ For more details circle NED-960 K5 on enclosed inquiry slip ▲



SERIES M.E.R. Guardian Midget Electrical Reset Stepper keeps the reset magnet open, allows the ratchet to reset freely on a pulse of 10 milli-seconds. Stepping magnet releases lock mechanism on first step to ready unit for recycle. Standard unit has one disk with one finger rotating counter-clockwise. Two fingers available. Up to 21 of total 24 points on disk are active. Rated at 10 steps per second. Voltage ranges: 6 v. to 115 v. A.C., 60 cycles, or 6 v. to 110 v. D.C. Auxiliary small combination contact switches can be mounted on ratchet or on either magnet. New 3-point mounting for easy installation.

SERIES M.A.S. Stepper. A compact dependable Add and Subtract unit.
SERIES M-120 Stepper. Up to 3 position contact combinations.

Write for catalogs featuring Guardian Steppers, Relays, Solenoids, Switches, Solenoid Contactors and Hermetically Sealed Controls.

GUARDIAN ELECTRIC
1626-L W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▲ For more details circle NED-969 K5 on enclosed inquiry slip ▲

POR-ROK (POUR ROCK) **Fast Setting Cement**

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
7452 WEST 25th ST. • CLEVELAND 13, OHIO

▲ For more details circle NED-970 K5 on enclosed inquiry slip ▲

You CAN save on crane and runway upkeep!

U.S. Steel has produced an informative booklet to help you lower crane and runway maintenance costs. It describes our three Special Crane Rail Sections . . . specifically designed to give longer service under heavy wheel loads. There are also detailed diagrams showing a special technique of tight-joint-assembly which, when combined with a new conception of "floating rail" fastening, will result in fewer delays in crane operation and less costly crane and runway maintenance. Send for your copy, today. Mail your name and address to: United States Steel Corporation, Room 4869, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS SPECIAL CRANE RAIL SECTIONS

UNITED STATES STEEL

▲ For more details circle NED-971 K5 on enclosed inquiry slip ▲

New Literature & Catalogs

Trigonometric Chart

Trig-Pal wall chart contains equations for right angle, oblique angle, spherical and compound trigonometry, as well as decimal equivalents. Instructions for use are included. Available for $1.00 from James D. Volts Associates, Box 621, Culver City, Calif.

▲ For more details circle NED-972 K5 on enclosed inquiry slip ▲

Rubber Covered Rolls

Tyer Rubber Co., Industrial Products Div.—Rubber covered rolls, made in wide range of sizes, surfaces and hardnesses for use in various industries, are subject of 6-page illustrated folder R55. Analyses of natural rubber, GRS (Buna-S), neoprene, Buna-N (Hycar) and Compar are included.

▲ For more details circle NED-973 K5 on enclosed inquiry slip ▲

Tool & Cutter Grinder

Homestrand, Inc.—Specifications, technical information and applications for Thorns Universal T2 tool and cutter grinder are found in 6-page illustrated catalog. Descriptions cover helix grinding equipment and special equipment available.

▲ For more details circle NED-974 K5 on enclosed inquiry slip ▲

Portable Heater

Master Vibrator Co.—B-100 portable forced air heater is 78-lb unit that has a capacity of 100,000 Btu per hour. As described in illustrated 4-page folder MV1165, it has a stainless steel combustion chamber, burns kerosene or No. 1 or 2 fuel oil, requires no vent and has a 12-hour fuel capacity.

▲ For more details circle NED-975 K5 on enclosed inquiry slip ▲

Portable Electric Tools

Porter-Cable Machine Co.—25-page illustrated catalog 102 contains descriptions of 52 portable electric tools and kits with over 400 accessories. Uses, specifications and prices for electric saws, sanders, drills, planes, routers, shapers, combination tools, grinders and others are given.

▲ For more details circle NED-976 K5 on enclosed inquiry slip ▲

Door Heaters

L. J. Wing Mfg. Co.—Selection chart contained in illustrated bulletin DH-2 aids in choice of proper size heater for a given size door and given set of temperature conditions. Door heater puts a curtain of high velocity hot air between the outside cold air and workers indoors whenever the doors are opened. Dimensions, capacities and methods of control are covered.

▲ For more details circle NED-977 K5 on enclosed inquiry slip ▲

Finishing of Stampings

Wheelabrator Corp.—Four case histories of companies finishing stamped metal parts by the airless abrasive blasting process are found in illustrated bulletin 117-D. Performance data are given. Blast cleaning is done for deburring, preparing surface for application of finishes, removing heat treat scale and removing rust.

▲ For more details circle NED-978 K5 on enclosed inquiry slip ▲

High Alloy Castings

Coast Metals, Inc.—Considerable technical data relating to physical characteristics and uses of wear-resistant alloy castings are given in 4-page folder "High Alloy Castings." It also lists production facilities.

▲ For more details circle NED-979 K5 on enclosed inquiry slip ▲

Time Recorder & Totalizer

Standard Instrument Corp.—"Time Recorder & Totalizer" is title of 4-page folder describing this instrument which provides a continuous operation record of any electrically operated machine or process. Chronologically marked tape passes through instrument recording time and length of every on or off period.

▲ For more details circle NED-980 K5 on enclosed inquiry slip ▲

Diamond Drill Bits

Hoffman Bros. Drilling Co.—18-page general catalog covering complete line of "Oriented Diamond Drill Bits" is compiled for quick location of pertinent drill bit data. Catalog lists sizes, setting charges, weights and uses for all standard bits. Section is devoted to new miniature prospecting bits and lab bits for special use. Latest price lists are included.

▲ For more details circle NED-981 K5 on enclosed inquiry slip ▲

It's New!
A TRUCK DESIGNED for Cartons

Handles ½-¾ and full keg size cartons and boxes and is quickly adjustable for oversize packages.

Truck stands upright when not in use.

Slip tapered feet under carton, drop hook over the top, pull handle to balancing position and carton moves easily on roller bearing wheels.

Not expensive either.

Write for Bulletin #CC-33

The Sabin Machine Co.
6536 Carnegie Ave. Cleveland 3, Ohio

▲ For more details circle NED-982 K5 on enclosed inquiry slip ▲

ADAPTABILITY! **Singly, or in combination, these valves provide 2-way, 3-way or 4-way control. Hand, foot, cam or solenoid operated. Every pipe size from ¼" through 1¼". Write for Bulletin 231.**

HANNIFIN

Hannifin Corporation, 527 S. Wolf Rd., Des Plaines, Ill.
AIR AND HYDRAULIC CYLINDERS • PRESSES • AIR CONTROL VALVES

▲ For more details circle NED-983 K5 on enclosed inquiry slip ▲

HOW TO GAIN THIS MUCH EXTRA STORAGE SPACE IN A 12' AISLE*

Conventional counter-weighted truck needs 136" aisles . . . Automatic's TRANSVEYOR needs only 76"
. . . Use the difference for storage!

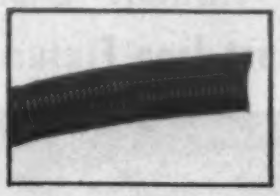
The above dramatically shows how much the compact Transveyor increases storage. Short chassis and tight turning radius also permit efficient operation in cramped areas where less maneuverable trucks could not work. Various models to serve wide range of needs can all be leased under Automatic's exclusive "Earn-Its-Own-Way" plan without 1¢ of capital investment. Convenient budget purchase plan also available. Write today for full information.

*Dimensions based on use of 48" x 48" pallets

Automatic 61 West 87th Street, Dept. T-3 Chicago 20, Illinois
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

▲ For more details circle NED-984 K5 on enclosed inquiry slip ▲

FLEXIBLE STAINLESS STEEL TUBING CONVEYS CORROSIVE MATERIALS AT HIGH TEMPERATURES



- stands up under continuous flexing
- absorbs severe vibration
- compensates for misalignment
- is easily installed

American Flexible Stainless Steel Tubing was developed to convey a wide variety of searching and corrosive liquids and gases at high temperatures. It's made in stainless types 316 and 321 in sizes ¼" I.D. and up. Quality materials and careful manufacture assure leakproof operation. Wire braid covering adds strength for high-pressure applications. Assemblies include fittings attached by Heliarc welding or silver brazing. SS184

FREE FOLDER: Four-page folder gives engineering data on construction and types. Includes pressure ranges, data on fittings. Write today for your copy of Bulletin STC-1. Address The American Brass Company, American Metal Hose Branch, Waterbury 20, Conn.

WHEREVER CONNECTORS MUST MOVE

AMERICAN flexible metal hose and tubing

an **ANACONDA**® product

▲ For more details circle NED-985 K5 on enclosed inquiry slip ▲

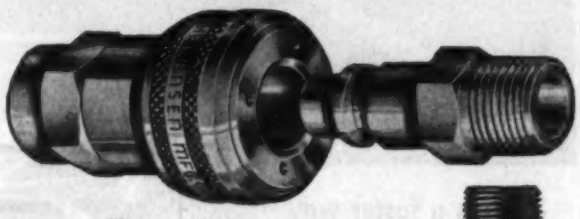
HANSEN

QUICK-CONNECTIVE

PUSH-TITE COUPLING

TRADE MARK

Provides Instant Automatic Flow or Shut-Off



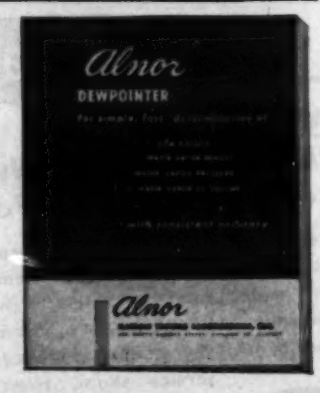
To connect a Hansen Push-Tite Coupling, you merely push the Plug into the Socket with one hand. Flow is instantaneous. To disconnect, push back sleeve on Socket . . . Coupling disconnects and flow is shut off instantly and automatically. No tools required. When Coupling is connected, Plug is free-swiveling, thus eliminating any possibility of kinks in hose.

Two-way shut-off and straight-through Couplings also available.
WRITE FOR CATALOG

THE HANSEN MANUFACTURING COMPANY

▲ For more details circle NED-986 K5 on enclosed inquiry slip ▲

get this **free** INFORMATIVE BULLETIN



Learn how easy it is for anyone to determine dew points quickly and accurately with the

ALNOR DEWPOINTER!

Only the Alnor Dewpointer has a sealed testing chamber, where atmospheres can be analyzed under controlled conditions . . . where the fog is observed *suspended in air* for fast, positive readings. Completely self-contained and readily portable for laboratory accuracy anywhere in the plant or field. And simple, direct operation enables even nontechnical personnel to easily obtain precise results, time after time.

Tear out this ad and send it along with your business letterhead to Illinois Testing Laboratories, Room 529, 420 N. LaSalle St., Chicago 10, Ill.

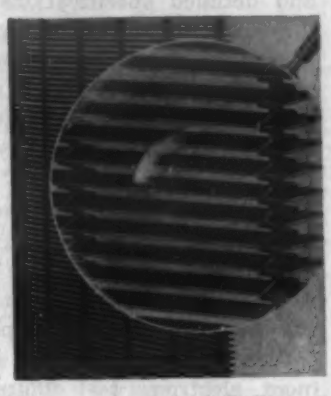
Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-987 K5 on enclosed inquiry slip ▲

New Processes & Materials

SUN-SHADING SCREEN is made of plastic-coated steel



Priced about 30 per cent lower than standard Koolshade, type RS louvered solar screening is highly corrosion resistant. Durable plastic coating is electrostatically sprayed on Bonderized steel louvers. It consists of tiny horizontal louvers set at the precise angle to screen out the maximum amount of solar heat and glare. It has all the outward visibility of standard insect screening. On air conditioning installations, 100 sq ft can be calculated to replace about 1 ton of refrigeration. In uncooled structures, Koolshade is reported to reduce room temperatures up to 15° F. Made by **Reflectal Corp.**, Dept. R.P., 310 S. Michigan Ave., Chicago 4, Ill.

▲ For more details circle NED-988 K5 on enclosed inquiry slip ▲

ICE MELTING CHEMICAL offered in large containers

Ice and snow melting chemical pellets are available in 300 and 500-lb reinforced fiberboard containers which can be transported from application to application without danger of leakage. Said to have 30 times the thawing capacity of salt, Melt is interspersed with a phosphate type rust inhibitor. Included with the 500-lb drum is a mechanical hand spreader. Also available are 25, 50, 100 and 200-lb containers. Made by **Chem Industrial Co.**, Dept. N, 3784 Ridge Rd., Brooklyn 9, O.

▲ For more details circle NED-989 K5 on enclosed inquiry slip ▲

NONSKID FLOOR COATING contains Carborundum for traction

Wood, metal, concrete, tile, terrazzo, composition board and other floors or surfaces can be made skid-proof with Protex-A-Life nonskid floor and deck coating. Surface is first cleaned of dirt, grease, waxes or loose paint, then scrubbed with Primer-Extender. Coating is applied in two coats with straight-edge trowel, allowing 6-8 hours of drying time between coats and after final coating. It can also be applied with proper spray equipment. Coverage is about 75 sq ft per gal on smooth surfaces, two coats. Available colors are cement gray, dark gray, tile red, yellow and off-white. Coating is offered with either vinyl or phenolic vehicles and contains Carborundum for traction. Formulated by **Protex-A-Cote, Inc.**, Dept. P, 161 Delancy St., Newark 5, N. J.

▲ For more details circle NED-990 K5 on enclosed inquiry slip ▲

PROTECTIVE PIPE TAPE prevents rust and corrosion

Made with an extra thickness of coal tar, Tapecoat-X provides rust and corrosion protection for pipe, pipe joints, fittings and couplings. It affords double-wrap protection with a single-wrap application. Tape consists of a close-woven fabric saturated with an even thickness of coal tar coating on both sides. Tar serves both as a bond and to prevent corrosion. It is resistant to fumes, moisture, acids, alkalies, fly ash, electrolysis and abrasion. Tape is applied by heating it with a torch and wrapping it around pipe or fitting. Widths range from 2 to 6 in. Made by **Tapecoat Co.**, 1565 Lyons St., Evanston, Ill.

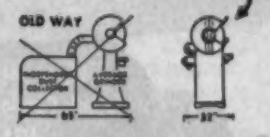
▲ For more details circle NED-991 K5 on enclosed inquiry slip ▲

Hammond of KALAMAZOO

2 IN 1 NO-DUST GRINDER

Visit us at Booth 1453 Metal Exposition Philadelphia—October 17-21

SAVE OVER 50% FLOOR SPACE THE HAMMOND WAY



DUST-LADEN AIR IS A MENACE!
- Protect your employees' health.
- Protect nearby machine tools from dust and grit.
- Save floor space — requires only 6½ square feet. For 10", 12", and 14" wheels. Write for Catalog.

Hammond Machinery Builders, Inc.
1623 DOUGLAS AVENUE KALAMAZOO, MICHIGAN

▲ For more details circle NED-992 K5 on enclosed inquiry slip ▲

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition.

Write for FREE book, including complete information.

Waterloo

VALVE SPRING COMPRESSOR CO. WATERLOO, IOWA

▲ For more details circle NED-993 K5 on enclosed inquiry slip ▲

NEW Wells MODEL 600 METAL CUTTING BAND SAW

Larger Capacity plus Wells Quality for Greater VALUE and PERFORMANCE

SELECT FEATURES
- Increased capacity—handles up to 6¾" dia., rounds; 6" x 13", rectangular.
- Exclusive Wells "constant-load," fool-proof blade tensioning.
- ⅝" wide blade for more accurate cutting.
- Safety switch with thermal overload protection and automatic stop features.
- Sealed type ball bearing motor for full power at low cost.
- Adjustable, uniform gravity feed of counterbalanced frame.

Call your Wells Distributor for information or write for descriptive literature.

Wells

The Pioneers of Horizontal

METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORP.
1313 HARDING ST. • THREE RIVERS, MICH.
See us at the Metal Show, Booth 730

▲ For more details circle NED-994 K5 on enclosed inquiry slip ▲

TUTHILL SIMPLIFIES PUMP SELECTION

New Cataloging Plan Provides Practical Short-Cuts to Pump Specifications—Helps You Pick The Right Pump for the Purpose

If your specifications call for pumps that must be driven by reversing shafts for...

- LUBRICATION
- HYDRAULIC SERVICE
- COOLANT
- CIRCULATING

In capacities from 3/4 to 200 g.p.m. and pressures up to 400 p.s.i.

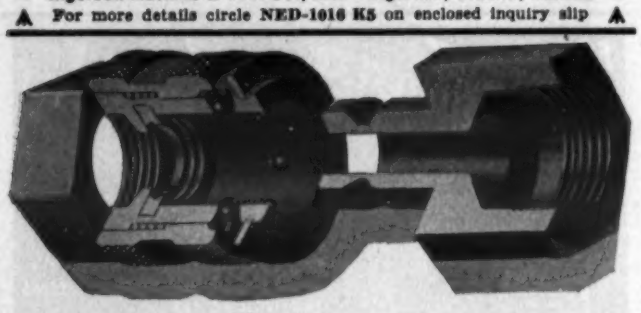
...Write for Tuthill Catalog 105 on automatic reversing pumps

Catalog 105 presents the complete line of Tuthill automatic reversing pumps. Without the use of check valves, these rotary, internal-gear positive displacement pumps can be driven in either direction of rotation without changing direction of flow or port positions.

TUTHILL PUMP COMPANY
Dependable Rotary Pumps since 1927
239 East 27th Street, Chicago 16, Ill.

Canadian Affiliate
Ingersoll Machine & Tool Co., Ltd. • Ingersoll, Ontario, Canada

▲ For more details circle NED-1016 K5 on enclosed inquiry slip ▲



QUICK-SEAL COUPLINGS

Couple or Uncouple IN ONE SECOND

Titeflex couplings are leakproof at *all* operating pressures—will convey liquids, gases or lubricants. These couplings save time, money—require no tools to connect or disconnect. Smooth bore construction means fast, free flow.

Titeflex Quick-Seal Couplings are made in three types—Straight-through, Single and Double Check-valves, in a variety of alloys and complete range of sizes from ¼" to 12" diameter.

Mail coupon TODAY for free Titeflex Quick-Seal Coupling Catalog.

Titeflex

TITEFLEX, INC.
Industrial Products Division
507 Hendee Street, Springfield 4, Massachusetts
Please send my free copy of the Titeflex Quick-Seal Catalog. No obligation.

Name_____
Title_____
Firm_____
Address_____
City_____ Zone____ State_____

▲ For more details circle NED-1017 K5 on enclosed inquiry slip ▲

New Literature & Catalogs

Bellows & Flexible Metal Hose

Flexonics Corp.—General data, typical applications and detailed specifications on extensive line of bellows are found in 16-page illustrated catalog 150. Design elements of Flexon flexible metal hose, application information and specifications make up the second section of this catalog.

▲ For more details circle NED-1018 K5 on enclosed inquiry slip ▲

Electronic Production Facilities

Telectro Industries Corp.—Facilities and typical products in the electronic line are described in this 24-page illustrated booklet. Designing and engineering service, production personnel and testing are covered. Typical products are aircraft industry equipment, electronic test equipment, recording and audio equipment and special products.

▲ For more details circle NED-1019 K5 on enclosed inquiry slip ▲

Wire-Wound Resistors

Precision, Inc.—Various types of wire-wound resistors are described in this 8-page illustrated brochure. An alloy characteristics chart is included. Fixed, adjustable, tapped multisection, pigtail terminal and ferrule terminal vitreous enamel types, as well as wire-wound precision resistors, are covered.

▲ For more details circle NED-1020 K5 on enclosed inquiry slip ▲

Rotating Mechanical Seals

United States Gasket Co.—Acids, alcohols, alkalies and hydrocarbons can be handled by line of external rotating mechanical seals for pumps and agitator shafts. As described in illustrated catalog MS-9 54, Chemiseals make use of a balanced Teflon bellows design. Ratings, sizes, installation procedure and other information are presented.

▲ For more details circle NED-1021 K5 on enclosed inquiry slip ▲

Radial Ball Bearings

Miniature Precision Bearings, Inc.—Over 500 different standard radial ball bearings are described and tabulated by bore size (ranging from 0.0250 to 0.2500-in.) in 24-page illustrated 1955-56 catalog. Sixteen types of radial bearings are detailed and summary data on six other standard series are included. Torque, speeds and tolerances are discussed, along with other characteristics.

▲ For more details circle NED-1022 K5 on enclosed inquiry slip ▲

Lead Screw Tapper

Procunier Safety Chuck Co.—Features of new lead screw tapper described in illustrated brochure includes trigger arm travel of only ⅜-in., depth holding within 0.005-in., depth stop which automatically disengages clutch at bottom of stroke, friction clutch to prevent tap breakage, and wiper which oils and cleans lead screw while in operation. Unit can be manually or air operated.

▲ For more details circle NED-1023 K5 on enclosed inquiry slip ▲

American Wirebounds Awarded 1st and Only SAFE TRANSIT LABEL for Cast Iron Fixtures

New Container Cuts All Costs

Humphryes Mfg. says: "We save 67% packing man-hours, 5% materials cost, reduced weight, cut damage, handling, claims." American can adapt these new wirebounds to *your* products. Get the facts, and save *money!* No obligation—inquire now.

THE American BOX CO.
1917 W. 3rd Street ★ Cleveland 13, Ohio ★ Phone: SU 1-4900
Branch Plant: Marion, S. C. ★ Phone: Marion 703, 702

▲ For more details circle NED-1025 K5 on enclosed inquiry slip ▲

HANDY GUIDE. *Pocket-sized Osborn Brush Guide helps you select power, paint and maintenance brushes.*

Here's a faster way to clean small machined parts

A SIMPLE fixture made from pipe—plus Osborn Brushes—cuts thread-cleaning time on these set screws 800 per cent.

An Osborn Monitor® Brush spins the screws, cleans them thoroughly. A stationary Osborn Situft® Brush, inserted through the pipe, controls rotation and traverse of the screws across the face of the brush. Other small parts can be cleaned and finished in seconds with this same fixture and Osborn Brushes.

For cleaning and finishing operations—and for plant upkeep, specify Osborn Brushes. *The Osborn Manufacturing Company, Dept. Z-29, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

Osborn Brushes

OSBORN BRUSHING METHODS • POWER, PAINT AND MAINTENANCE BRUSHES
BRUSHING MACHINES • FOUNDRY MOLDING MACHINES

▲ For more details circle NED-1026 K5 on enclosed inquiry slip ▲

Keep TABS on Aeroil low cost, high speed parts cleaning equipment!

metal parts washer

AIR-AGITATION thoroughly, efficiently removes oil, grease, dirt!

Here's an inexpensive, feature-packed washer that lets you clean any metal item completely, conveniently. And it's been performance-proven by general industry, service shops, transportation companies and fleet operators throughout the country!

vapor degreaser

Handy, portable unit specially designed for non-production operations!

Light degreasing of all small metal parts are handled with amazing speed and ease! Just dip part and watch vapor dissolve grime instantly. Especially recommended for use with either trichlorethylene or perchlorethylene.

ALL AEROIL PRODUCTS ARE UNCONDITIONALLY GUARANTEED FOR ONE FULL YEAR!

➡ Write for literature.

Aeroil Products Company, Inc.
"QUALITY GUARANTEED PRODUCTS SINCE 1917"
69 WESLEY STREET, DEPT. N, SOUTH HACKENSACK, N. J.
Branch Offices: LOS ANGELES and CHICAGO

PRODUCTS FOR ROOFING, CONSTRUCTION, ROAD MAINTENANCE AND INDUSTRY
Melting Kettles • Melting Furnaces and Compound Pots • Tool Trailers
Torches and Burners • Power and Hand Sprayers
Concrete, Tool, Space and Water Heaters • Coating, Cleaning, Finishing Tanks • Steam Cleaners • Roofers and Pavers Accessories

▲ For more details circle NED-1024 K5 on enclosed inquiry slip ▲

Five times faster cleaning

A Pantex Speedylectric Steam-Jet Cleaner lets one man do the work of five. High pressure jet of "dry" steam and solvents quickly removes grease and dirt accumulations from machines and equipment *without* flooding floors. No need to stop nearby production or move machines outside. Completely safe and portable (operates on 220, 440, or 550v.), the Speedylectric utilizes the electrode principle, the simplest, lowest cost method of generating steam electrically . . . no coils, tubes or electric heating elements to scale or burn out, no flames or fumes, no fire or explosion hazards. It's the fast, safe equipment for in-plant cleaning. Get latest Bulletins, write:

Pantex MANUFACTURING CORPORATION
Box 660Z Pawtucket, Rhode Island

For more details circle NED-1027 K5 on enclosed inquiry slip

PALMGREN ANGLE VISES

DRILLING
MILLING
GRINDING
FILING
FITTING
MARKING

Solve Difficult Angle Jobs

- ★ For Tool Room—Production Line—Bench.
- ★ Speed up work—End Makeshift Methods.
- ★ Quick Accurate Setups at any angle.
- ★ Sturdy Longlife Construction.
- ★ All Parts Accurately Machined.
- ★ Jaws—Plain or Grooved.
- ★ Jaw sizes 1½", 2½", 3", 4", 6" and 8".

Write for Circular No. 204

CHICAGO TOOL AND ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS Since 1918
8378 South Chicago Ave. Chicago 17, Ill.

PRECISION WORK AT ANY ANGLE

For more details circle NED-1028 K5 on enclosed inquiry slip

Du-Lite PHOSPRAY

FOOLPROOF BOND FOR ANY PRODUCT FINISH

a cold spray bonding solution applied with ordinary spray equipment . . . SAVES EXCESSIVE HANDLING TIME REQUIRED BY HEATED PHOSPHATE PROCESSES.

- Phospray minimizes cleaning and eliminates rinsing and drying.
- Phospray dries "dust free" immediately, ready for application of final finish.
- Phospray can be cut with thinner as high as 3 to 1 without reducing effectiveness.
- Phospray has been thoroughly field tested to government specs.
- Phospray cuts processing time, reduces finishing costs, and provides an easy sure-fire bond for organic finishes on almost any metal.
- Phospray is made and guaranteed by Du-Lite, the metal finishing specialists.

Write for complete information.

METAL FINISHING SPECIALISTS

Du-Lite DU-LITE CHEMICAL CORP. MIDDLETOWN CONN.
METAL FINISHING SPECIALISTS

For more details circle NED-1029 K5 on enclosed inquiry slip

New Processes & Materials

VISUAL TACHOMETER
checks speeds at distances to 50 ft

Rotary or vibratory speeds of machinery or equipment can be measured from a distance of 3 to 50 ft with this lightweight Visutac visual tachometer. It has a spring-wind mechanism which stops motion on a stroboscopic principle. It is available in two basic ranges of 500-8000 and 1000-16,000 rpm or vibrations per minute. It is accurate within 2 per cent. Instrument can be wound, focused, synchronized to stop motion and read at leisure. Available from **Boulin Instrument Corp.**, Dept. 1, 65 Madison Ave., New York 16, N. Y.

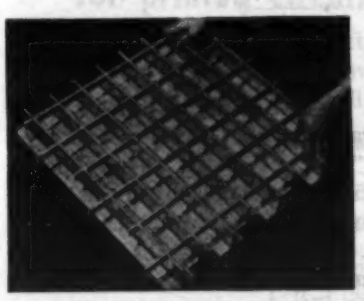
For more details circle NED-1030 K5 on enclosed inquiry slip

LIQUIDPROOF PAPER
permits free passage of air

Extremely resistant to passage of water, oil and other liquids, new paper allows free passage of air. Manufacturer is faced with the problem of "what to do with this product?" and will send complete information on paper and its properties to those who may have applications for a paper that stops liquid but passes air. Write to **Riegel Paper Corp.**, Box 250, New York 16, N. Y.

For more details circle NED-1031 K5 on enclosed inquiry slip

FLOOR-GRATING
used with concrete or asphalt filler



Illustrated T-Bar grating is designed for use with concrete or asphaltic filler. Because the T's on the underside form a retaining surface, forms for pouring concrete are not needed. Bearing capacity is high and surface is armored with upright cross and bearing bars. Overall deadweight of this type floor is less than that of standard reinforced concrete. Panels can be made up to 3 x 20-ft sections and cut to any desired size. T's used can range from 1 x 1 x ⅛ in. up to 6 x 6 x ½ in. according to the bearing strength required. Grating is formed by pressure interlocking. Made by **Blaw-Knox Co.**, 2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

For more details circle NED-1032 K5 on enclosed inquiry slip

ULTRA-CHEX GAGE BLOCKS

for Every Need!

Supplied in one Superior Accuracy
5 MILLIONTHS ± ACCURACY

82 Block Set $303.00 Complete
This Set will supply the needs of any discriminating shop that must work to gage-block precision.

34 Block Set $132.50
WITHOUT OPTICAL PARALLEL

9 Block Set $24.75
OPTICAL PARALLEL $6.00

QUICK DELIVERY ON ALL SETS

All Sets at "Money Saving Prices" due to Mass Production Methods.

WRITE FOR FULLY ILLUSTRATED CATALOG — Code GIPEY

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
200-ND LAFAYETTE STREET • NEW YORK 12, N.Y.

For more details circle NED-1033 K5 on enclosed inquiry slip

new MANCO HYDRAULIC GUILLOTINE CATALOG

Write for it

Special hydraulic tools for cutting, punching, shearing, riveting, etc. High speed production tools, as well as portable units for field or maintenance work. Up to 150 tons thrust. Write for catalog.

Dept. NED-10

MANCO Mfg. Co.
BRADLEY, ILLINOIS

For more details circle NED-1034 K5 on enclosed inquiry slip

Act now—have a money-saving B.F.Goodrich

TW TIRE AND WHEEL ANALYSIS made in your plant today!

● You can save as much as 50% on industrial tire costs with the B. F. Goodrich Tire and Wheel Analysis Plan!

Call in your local B. F. Goodrich representative today. He's trained to study your materials handling set-up. He knows the kind of industrial tires—the tread compounds and tread designs—that will give the best service at lowest cost in your type of work. He'll recommend these tires to you. And this service costs you nothing, puts you under no obligation.

Industrial tire users across the country have benefited from the recommendations of the B. F. Goodrich Tire and Wheel Analysis man. They have saved up to 20% on *maintenance costs alone* by following the suggestions he makes. Why not find out, without obligation, how much the B. F. Goodrich Tire and Wheel Analysis Plan can save *you!*

You can be sure the advice you get from your BFG man will be impartial. He has no axe to grind for any particular type of industrial tire—for B. F. Goodrich makes, and BFG retailers sell, a complete line of industrial tires.

Call your local B. F. Goodrich representative today and ask him to make a free Tire and Wheel Analysis in your plant, or mail the coupon. A special TW Analysis Plan is available for manufacturers of industrial handling equipment.

Specify B.F.Goodrich tires when ordering new equipment

The B. F. Goodrich Co.
Department TW-539, Akron 18, Ohio.
Please send me:
☐ *Additional information* on your new Tire and Wheel Analysis Plan
☐ A free copy of your "Industrial Tire Guidebook".
Name _____
Company _____
City _____ Zone ____ State ____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

For more details circle NED-1035 K5 on enclosed inquiry slip

Rugged...
Versatile...
Low Cost

CRANE iron body clamp gate valves

Crane clamp gate valves are dependable, low-maintenance performers in a wide range of services—steam, hot and cold water; crude, fuel, and lubricating oils; and for gas and gasoline control.

These Crane valves are easy to open for inspection and cleaning—2 bolts to remove; complete bonnet and disc assembly lifts out while body remains in the line; repeated opening doesn't affect bonnet joint tightness; short end-to-end or face-to-face dimension makes these valves ideal for tight places; available in wide range of patterns. Ask your Crane salesman for complete details or write for folder AD 1667.

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

▲ For more details circle NED-1036 K5 on enclosed inquiry slip ▲

Let us Analyze your Shipping problems and give you the right Prescription ℞.

PHONE OR WRITE

ALLEGHENY STEELBAND COMPANY

BOX 716 • PITTSBURGH 30, PA. • WAlnut 1-7100

▲ For more details circle NED-1037 K5 on enclosed inquiry slip ▲

NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of

the **MOTOAIR®**

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps Oil-less models also available.

824

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

▲ For more details circle NED-1038 K5 on enclosed inquiry slip ▲

New Literature & Catalogs

Tape Dispensers & Machines

Minnesota Mining & Mfg. Co.—What is reported to be industry's "most complete line of dispensers and taping machines" is described in 16-page illustrated bulletin of this title. More than 75 dispensers and machines are available for applying pressure-sensitive Scotch and other tapes for packaging, sealing, tying, marking, bundling and masking purposes.

▲ For more details circle NED-1039 K5 on enclosed inquiry slip ▲

Emergency Lighting Equipment

Electric Storage Battery Co.—Exide Lightguards, the UL-approved battery-powered emergency lighting units, are presented with diagrams, charts and specifications in 8-page illustrated bulletin 5736. Permanent connection, auxiliary plug-in and transparent plastic-cased battery units make up the Exide Lightguard line.

▲ For more details circle NED-1040 K5 on enclosed inquiry slip ▲

Roller Conveyors

E. W. Buschman Co.—Series 60 medium and heavy duty roller conveyors are subject of 20-page illustrated catalog 60A. Cutaway views show details of dust-proof and grease-packed-for-life bearings with true-labyrinth metal seal, as well as integral and plain ball bearings. Charts give roller and frame capacities.

▲ For more details circle NED-1041 K5 on enclosed inquiry slip ▲

Precision Industrial Gears

Detroit Bevel Gear Co.—Production facilities as well as typical gear products of this company are subject of illustrated 8-page brochure entitled "Precision Industrial Gears." Described is a complete gear and axle line which includes spur, helical, spiral bevel, hypoid, straight bevel, Zerol and ring gears.

▲ For more details circle NED-1042 K5 on enclosed inquiry slip ▲

Fabricating Arc-Cast Molybdenum

Climax Molybdenum Co.—All available technical and fabricating data on arc-cast molybdenum is compiled into 72-page illustrated manual "Arc-Cast Molybdenum and Its Alloys." The 4750°F melting point of molybdenum and its unusual strength at high temperatures adapt it as a refractory metal. Limitations are discussed, also.

▲ For more details circle NED-1043 K5 on enclosed inquiry slip ▲

Socket Screw Products

Strong, Carlisle & Hammond Co., Mac-it Screw Div. —Dimension standards, standard sizes, physical properties, recommended tightening torque, and suggested applications and uses for Mac-it hollow pipe plugs; hollow lock, button head cap, flat head cap and other socket type screws; hollow set screws; stripper bolts and hex socket keys are detailed in 18-page "Handy Data File" for wall hanging.

▲ For more details circle NED-1044 K5 on enclosed inquiry slip ▲

LOOK OUT FOR THE LIGHT-HAWK

CHAMPION Lamps

The keen-eyed *Light-hawk* swoops down wherever lighting maintenance lags and flies away with power dollars. You can stop him by following the principles of good lighting practice presented in the *Champion Maintenance Manual** and seeing that the dependable name CHAMPION is on the lamps you use.

*Write today for a complimentary copy.

CHAMPION LAMP WORKS

304 Lynnway, Lynn, Massachusetts

▲ For more details circle NED-1045 K5 on enclosed inquiry slip ▲

WE BUILD TRANSFORMERS FOR

208 VOLT PRIMARY

277 VOLT PRIMARY

If your power source has been changed to 208 volts or 277 volts, you can overcome any voltage difficulty and maintain a 120/240 volt distribution system by installing Acme Electric dry type transformers. The primary windings of these transformers are designed for 208 volt or 277 volt input, with 120/240 volt secondary output.

Built in sizes from 1 KVA to 167 KVA, 1 phase 60 cycle. Can be supplied with two 5% primary taps.

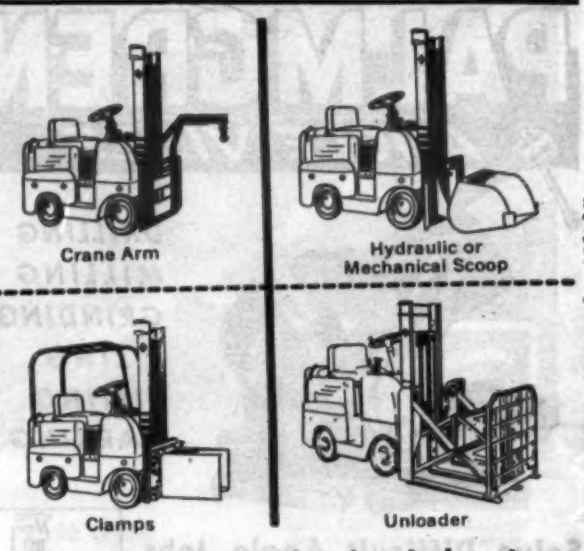
ACME ELECTRIC CORPORATION

3010 WATER ST. CUBA, N.Y.

West Coast: 1375 W. Jefferson Blvd., Los Angeles, Calif.
In Canada: Acme Electric Corp. Ltd., 50 Northline Rd., Toronto, Ont.

Acme ACME Electric TRANSFORMERS

▲ For more details circle NED-1046 K5 on enclosed inquiry slip ▲



For every material or load, there's a Fork Lift Truck attachment!

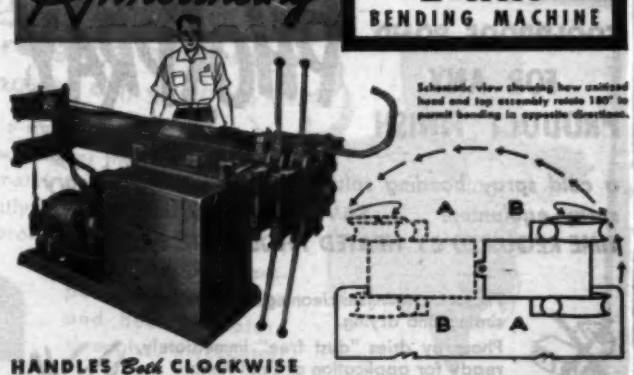
Allis-Chalmers has available a complete range of attachments to speed up every material handling, or type of loading operation. In addition to the four popular attachments shown above, there are dozens of other Allis-Chalmers Fork Lift Truck attachments to make your loading problems simple.

Write for colorful Bulletin 1642 A

BUDA DIVISION • HARVEY, ILLINOIS
ALLIS-CHALMERS

▲ For more details circle NED-1047 K5 on enclosed inquiry slip ▲

Announcing **NEW PINES 2-WAY BENDING MACHINE**



HANDLES *Both* CLOCKWISE AND COUNTER-CLOCKWISE BENDING OPERATIONS

Now, with the new Pines 1400-A Two-Way Bending Machine, you can handle bending operations in either clockwise or counter-clockwise (left or right-hand) direction. This new standard semi-automatic machine is designed with a unitized head and top assembly double-hinged to the base, which makes it possible to turn over the entire assembly 180°. The stationary and swinging arms have double ways for mounting both clamping and forming tools. Versatility is built into the machine to especially serve small lot bending requirements where multiple planes and odd shapes make it difficult to handle all operations with a single setup.

Complete Changeover In Two Minutes

The exclusive features built into this new Pines Bender permit double tooling setups and quick and easy changeovers. With tooling mounted on both the top and bottom ways of the stationary and swinging arms, a complete changeover from left to right-hand bending can be made in two minutes. Typical production rates are 300-400 bends an hour. This low cost machine has capacity for tubes up to 1" diameter.

Write For **FREE DATA**

If you have a variety of small lot bending work, or need a highly versatile small bender, it will pay you to get complete facts today on this new Pines Two-Way Machine. Write today for free literature.

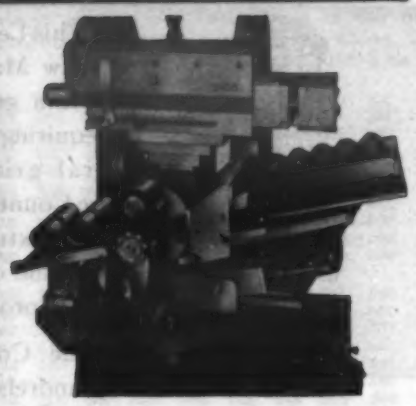
PINES ENGINEERING CO., INC.

▲ For more details circle NED-1048 K5 on enclosed inquiry slip ▲

CUT COSTS . . . SPEED PRODUCTION

with GTS

FULLY AUTOMATIC MARKING



The tube marker shown here was designed by GTS engineers for major automotive manufacturers.

It dramatically cuts marking costs, speeds production, and insures accurate, uniform marking—handling as many as 2500 to 3000 mild steel thin-walled tubes per hour.

This is only one item in a proud list of designing triumphs. Write today and state when you want a GTS Sales Engineer to call—without obligation—to discuss with you how you save time and money, and insure uniformity, by using the best in modern marking methods.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

▲ For more details circle NED-1049 K5 on enclosed inquiry slip ▲

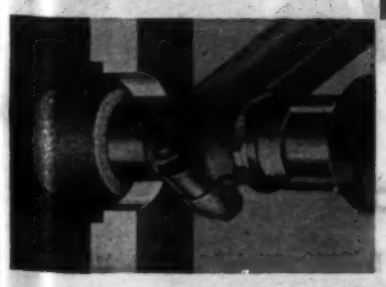
LIGHTNING-FAST
ELECTRO PUNCH
FOR LOW-COST PRODUCTION

Write—or phone Bigelow 4-6370—for folder showing complete line of Black & Webster solenoid-operated production tools.

BLACK & WEBSTER, INC.
Dept. 1, 445 Watertown Street, Newton 58, Mass.
SOLENOID-OPERATED PRODUCTION TOOLS

▲ For more details circle NED-1050 K5 on enclosed inquiry slip ▲

For fast, accurate handhole seat refacing, use the...



ELLIOTT HANDHOLE SEAT GRINDER

You'll come up with sure-tight seats everytime when this handhole grinder is on the job. It's simple and easy to operate . . . set-up and grinding time amounts to just minutes. Insert the grinder in the handhole to be resurfaced, then clamp the base of the unit to an adjacent handhole. The grinding wheel is held on a vertical axis, and can move freely in that plane, and only in that plane. Guide rollers for a wide variety of seat widths are available from 3/16" to 21/32". The grinder may be driven by either an air or an electric motor. For details contact your local Elliott Field Engineer or write Elliott Company, Springfield, Ohio.

Y4-12

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS
CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

▲ For more details circle NED-1051 K5 on enclosed inquiry slip ▲

New Processes & Materials

MAGNETIC SHIELDING MATERIAL in sheets and fabricated forms, reduce outside magnetic influences

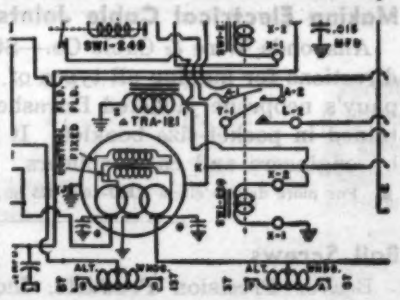
Ferrite and ferrous powders coated on base materials by means of binders constitutes this magnetic shielding material which is available in sheet and fabricated forms. Product finds application in shielding color television, photomultiplier and cathode ray tubes from stray magnetic and electrostatic interference; protecting compass and aircraft instruments from magnetic interference during shipment; shielding radio equipment from transformers and motors; and protecting instruments from magnetic forces inside radar instruments. It can be used in construction of tape recording storage cases, switch shields and screen rooms.

Other important properties include nonsensitivity to shock, nonretentivity, durability and saturation. Where greater shielding is required, use of an additional sheet can provide up to six times the attenuation of initial sheet. In uncoated state material can be spun, bent, stamped or drawn before being coated. Developed by **Perfection Mica Co.**, Magnetic Shield Div., Dept. N, 1322 N. Elston Ave., Chicago 22, Ill.

▲ For more details circle NED-1052 K5 on enclosed inquiry slip ▲

SCREEN PROCESS INK for printed circuit production

Applicable to volume production of printed circuits, Naz-Dar P.C. Black, a free-flowing screen process ink, will lay an unbroken resist line of hairline accuracy without blobbing or breaking the circuit. Commonly used etching chemicals have no effect on the ink once it is applied to printing blank. Reaction to petroleum solvents is instantaneous, with all traces of resist vanishing seconds after hitting solvent bath. Ink is offered in type which can be air-dried for normal production and one which can be heat-dried for accelerated volume. Any standard color is available. Made by **Naz-Dar Co.**, Dept. DEN, 461 N. Milwaukee Ave., Chicago 10, Ill.



▲ For more details circle NED-1053 K5 on enclosed inquiry slip ▲

WHEREVER SOMETHING STICKS
You'll Find A Use For

IMS
SILICONE FLUID SPRAY

ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING
And your sticking problems are over!
The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

Handy Self Dispensing Can
Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO.
CLEVELAND

▲ For more details circle NED-1054 K5 on enclosed inquiry slip ▲

● Standard or special rubber insulated clips, stamps and fasteners for cable, loom, tube, wire, rod and pipe . . . rubber or neoprene applied in desired thickness for complete or partial coverage to metal stampings of any size or shape . . . ARco form dipped rubber parts, quickly, economically produced . . . these ARco products and services are helping development engineers solve problems and simplify purchasing for manufactures. Consult ARco engineers today.

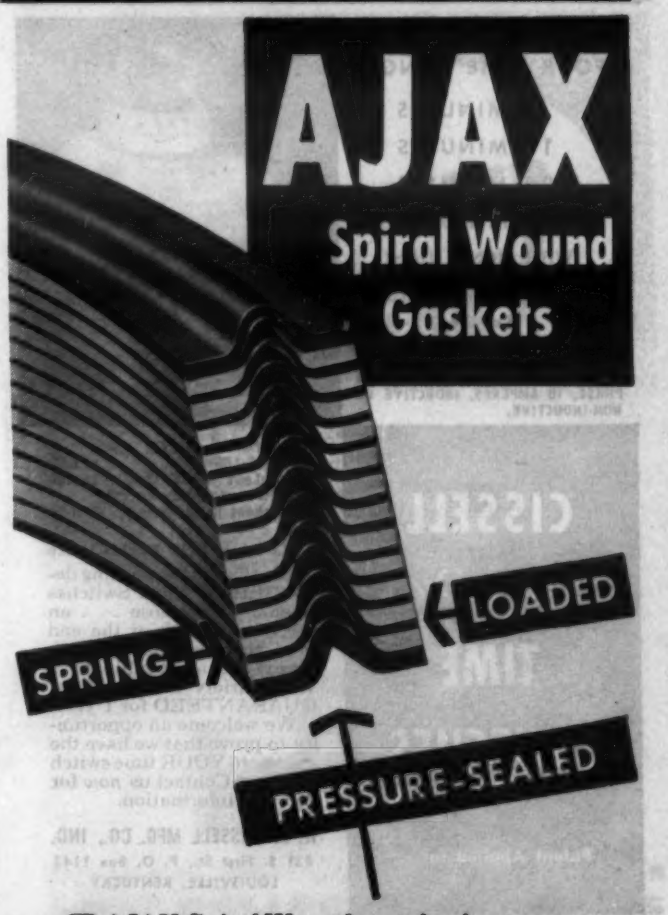
Valuable literature available—Write today!

AUTOMOTIVE RUBBER COMPANY • INC.
Manufacturers • Designers • Engineers
12386 Beech Rd. • Detroit 39, Mich.
ARco RUBBER PROCESSORS
4093 Homestead Rd. • Houston, Texas

ANYTHING CAN BE COVERED WITH RUBBER BY . . . ARco

▲ For more details circle NED-1055 K5 on enclosed inquiry slip ▲

AJAX
Spiral Wound Gaskets



■ AJAX Spiral Wound metal-asbestos gaskets provide positive seals at lower bolt loads because they are literally "spring loaded". The U-shaped form of the interlocking metal plies provides automatic reaction to mechanical compression, internal pressure variations and temperature changes. They "breathe" with variations in pipe line stresses and normal bolt relaxation.

And because they do not lose their resiliency under compression they may be used over again, should it be necessary to break the joint.

There are types and sizes for all standard flanges and for manholes, handholes and tube caps for all makes of stationary and marine boilers, water walls, economizers, etc.

Ask Your Industrial Distributor
or write for Catalog No. AG-953

UNITED STATES GASKET COMPANY
CAMDEN 1, NEW JERSEY

USG

FABRICATORS OF FLUOROCARBONS & OTHER PLASTICS
Representatives in principal cities throughout the world

▲ For more details circle NED-1056 K5 on enclosed inquiry slip ▲

Ideal For All Plants, Regardless of Size, Where Flexibility In Degreasing Is An Important Factor

These lightweight, portable degreasing units are designed to fit into any production or assembly system. You get effective degreasing where and when you need it. The Aircon can be used as a complete degreasing system or to supplement large permanent installations. The low cost of Aircon Vapor Degreasers makes it convenient to use several units at points of necessary operation. Units are available with solid casters, permitting easier transfer.

Aircon Degreasers are available in two models: The Straight Vapor Degreaser for ordinary cleaning jobs where vapor itself is sufficient to produce desired results; and the HEAVY DUTY Vapor Spray Degreaser for the more difficult cleaning tasks requiring a direct spray of solvent. We also design and engineer special degreasing systems for individual production requirements.

For complete information on AIRCON Vapor Degreasers, write today for Bulletin AW-2. Send to: Dept. NED

Armstrong & White
CHESWICK, PENNSYLVANIA

▲ For more details circle NED-1057 K5 on enclosed inquiry slip ▲

AVAILABLE IN FOUR TIME RANGES
7 MINUTES
14 MINUTES
28 MINUTES
56 MINUTES
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WITH "HOLD" FEATURE if desired

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Heavy Duty
TIME
SWITCHES

Patent Applied for

ILLUSTRATED ABOVE:
MODEL T-145W $12.50
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ACCURATE AND DEPENDABLE
More than just a warning device, Cissell Time Switches open . . . or close . . . an electrical circuit at the end of a specified time period. They are adaptable to a wide variety of mountings. GUARANTEED for 1 year.
We welcome an opportunity to prove that we have the answer to YOUR time switch problem. Contact us *now* for detailed information.

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REVERSIBLE SCREWDRIVER

$77.00

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Send me all the facts about the new MALL Reversible Screwdriver.
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Address
MU-105

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New Literature & Catalogs

Directory of Precision Stamping

The first available "Precision Stamping Directory" lists precision job stamping sources throughout the United States, and gives sufficient information about each producer to enable purchasing agents and specifiers of stampings to make a preliminary analysis of prospective vendors. Complete data on type of service offered, materials processed and secondary operations performed are included. For free copy, write to American Silver Co., 36-07 Prince St., Flushing, N. Y.

▲ For more details circle NED-1060 K5 on enclosed inquiry slip ▲

Industrial Electronic Tubes

24-page illustrated directory of power and vacuum tubes lists technical data on 178 electronic power tubes. Types covered include vacuum power, rectifier, thyratron, ignitron, magnetron and vacuum gage tubes. Price is 20 cents. Write directly to Radio Corp. of America, Commercial Engineering, Tube Div., Harrison, N. J.

▲ For more details circle NED-1061 K5 on enclosed inquiry slip ▲

Sprayers & Dusters

Universal Metal Products Co.—The complete line of Universal sprayers, dusters and allied products for applying insecticides, disinfectants and germicides in locker rooms, washrooms and other critical areas are detailed in 20-page illustrated catalog U-56. Also described are flame burners for destroying weeds around plant fences and for portable, quick heating.

▲ For more details circle NED-1062 K5 on enclosed inquiry slip ▲

Tooling Plastics

Furane Plastics—Group of 3 x 5-in. cards furnishes ready-reference data on tooling plastics. Listed on each card are application, hardener, mixing formula and set time for specific casting resins for use in making punches, dies and tools.

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Making Electrical Cable Joints

Anaconda Wire & Cable Co.—Step-by-step pictorial directions for making all types of cable joints in company's neoprene jacketed Durasheath cables are contained in pocket-size booklet. It is available for use by engineers and cable splicers.

▲ For more details circle NED-1064 K5 on enclosed inquiry slip ▲

Ball Screws

Beaver Precision Products, Inc.—"How to Apply The Highly Efficient Method of Torque-Thrust Conversion to Your Actuation Problem" deals with design and application of Beaver Ball Screws in trunnion, threaded, integral, flange and plain types. Load capacities, design standards, design considerations, typical nut adaptors and available sizes are tabulated.

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Descriptive literature NE on request

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HEAT-TIMER corporation
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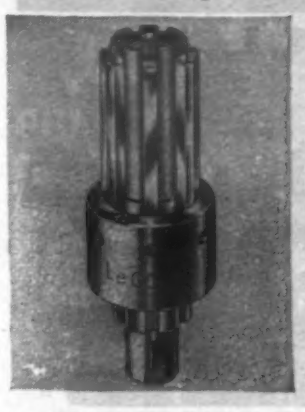
Special Mandrels and Holding Fixtures solve production problems



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ROUND STEEL STRAPPING FLAT STEEL
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Quincy compressors QUINCY COMPRESSOR CO. QUINCY, ILLINOIS

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2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152
3	53	103	153	203	253	303	353	403	453	503	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153
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6	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156
7	57	107	157	207	257	307	357	407	457	507	557	607	657	707	757	807	857	907	957	1007	1057	1107	1157
8	58	108	158	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
9	59	109	159	209	259	309	359	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159
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11	61	111	161	211	261	311	361	411	461	511	561	611	661	711	761	811	861	911	961	1011	1061	1111	1161
12	62	112	162	212	262	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062	1112	1162
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15	65	115	165	215	265	315	365	415	465	515	565	615	665	715	765	815	865	915	965	1015	1065	1115	1165
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18	68	118	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168
19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169

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25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175
26	76	126	176	226	276	326	376	426	476	526	576	626	676	726	776	826	876	926	976	1026	1076	1126	1176
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33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183
34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184
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36	86	136	186	236	286	336	386	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186
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42	92	142	192	242	292	342	392	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192
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46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
47	97	147	197	247	297	347	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197
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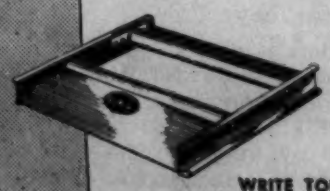

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WRITE TODAY FOR DETAILS

ROLL-A-REEL
1100 SYCAMORE AT CENTRAL PARKWAY
CINCINNATI 2, OHIO

▲ For more details circle NED-1081 K5 on enclosed inquiry slip ▲

New Literature & Catalogs

Conveyor Belting Data

Hewitt-Robins, Inc.—23 x 33-in. wall chart is guide to the selection and maintenance of conveyor belting. It offers 12 practical maintenance tips for obtaining maximum life from belts. It deals with the storage of belts, correct design of loading chutes, use of automatic switches, lubrication, inspection and other aspects of maintenance. Chart also lists types of belts recommended for various uses, such as mining, metal processing, food handling, chemical processing and coal movement in power plants.

▲ For more details circle NED-1082 K5 on enclosed inquiry slip ▲

Variable Speed Drives

Sterling Electric Motors, Inc.—Information on factors governing variable speed drive selection as well as a description of the operation of Speed-Trol variable speed transmissions are contained in 8-page illustrated bulletin 188. Many types of automatic and remote speed control accessories are described also.

▲ For more details circle NED-1083 K5 on enclosed inquiry slip ▲

Pilot-Operated Valves

A. W. Cash Co.—Details of the standard pilot-operated control valve which converts from pressure reducing and regulating to back pressure control by a simple switch of the control lines are presented in 4-page illustrated bulletin 966. Valves are offered in 2 to 12-in. sizes for up to 600-psi inlet pressures.

▲ For more details circle NED-1084 K5 on enclosed inquiry slip ▲

Rubber & Plastics Extrusions & Moldings

Geauga Industries—The versatility of custom extruded, molded and finished rubber and plastic products is described in 8-page illustrated brochure. Typical items produced to rigid customer specifications as well as applications and properties of natural, GRS, Buna-N, neoprene and butyl rubbers and various vinyl plastic materials are covered by this bulletin.

▲ For more details circle NED-1085 K5 on enclosed inquiry slip ▲

Unitized Steel Shelving

Borroughs Mfg. Co.—"Unitized Flexi Steel Shelving" is title of 32-page illustrated catalog No. 6039 which gives specifications and explains advantages of flexibility, compactness, ease-of-erecting and strength of this shop equipment. Detailed guidance on planning a steel shelving layout is offered together with information on the 24 different units which comprise this shelving line.

▲ For more details circle NED-1086 K5 on enclosed inquiry slip ▲

High Voltage Resistors

International Resistance Co.—Data on construction, specifications, installation, tolerances, voltage and temperature coefficients, ratings, insulation and other important features of type MV high-voltage resistors are contained in 8-page illustrated bulletin G-1a. Resistors are offered in 1, 2 and 3-w ratings, with peak voltage ratings of 3500, 10,000 and 15,000, and up to 20,000 megohm resistances.

▲ For more details circle NED-1087 K5 on enclosed inquiry slip ▲

Power Presses

Sales Service Machine Tool Co.—8-page illustrated bulletin 855 deals with the Press-Rite line of power presses in capacities of 2 to 85 tons. The Airflex air clutch is optional equipment on 10 to 85-ton models.

▲ For more details circle NED-1088 K5 on enclosed inquiry slip ▲

Packaged Steam Supply Units

Eclipse Fuel Engineering Co.—Described and illustrated in 4-page bulletin A-77-1 are horizontal and vertical automatic packaged Dowtherm vaporizers for high temperature, low pressure vapor or liquid phase systems for various process heating applications. Also covered are Steamboilerplants, packaged horizontal and vertical units in sizes for ½ to 125 hp, with pressures to 500 psi.

▲ For more details circle NED-1089 K5 on enclosed inquiry slip ▲

Strip-Chart Recorders

Bristol Co.—Line of 6-in. strip-chart recorders for pressure, liquid level, temperature, flow and mechanical motion is described in 12-page bulletin. Installation drawings show methods of application to different variables, while photographs show various models and their features. Use of recorder as receiver of remotely generated pneumatic or electrical signals is also described.

▲ For more details circle NED-1090 K5 on enclosed inquiry slip ▲

NEW VAC HAS
unusual pick up power!

Have you *big* cleanup jobs... Either wet or dry pickup jobs you want done in a hurry?

Then investigate MULTI-CLEAN's new G-400 Industrial Vacuum Cleaner with its powerful 1 hp 115V AC-DC by-pass motor and 2-stage turbine that create a suction equal to *63" water lift* with closed orifice.

Sturdy 20 gauge all welded steel tank holds 10 gallons of wet or 1½ bushels of dry pick-up material. Built-in strain reliever protects 16 gauge 3-conductor safety cable from sudden jerks. Rolls freely on 4 ball bearing casters. Easy on-off tank clamps preserve airtight seal yet unsnap with a flick of the fingers. Offers many other high-quality MULTI-CLEAN design features.

only $265.00
Price includes 10' x 1½" white flexible hose.
For further information, write

MULTI-CLEAN Method

MULTI-CLEAN PRODUCTS, INC.
2277 Ford Parkway Dept. NE-105 St. Paul 1, Minnesota

▲ For more details circle NED-1091 K5 on enclosed inquiry slip ▲

Compressor Piping "Shakes"
Cured with Flexon Metal Hose

WRITE FOR FLEXON METAL HOSE CATALOG NO. 147

• Vibration and pounding in the lines was the problem in this compressor house. Much trouble had been experienced with loosened connections. Pulsating pressure and an operating range of 70° to 300° F. caused axial motion and further complications.

Connections of Rex-Weld corrugated steel hose solved the problems completely. If you have similar troubles, call your Flexonics Distributor.

FLEXONICS CORPORATION
Formerly Chicago Metal Hose Corporation
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

▲ For more details circle NED-1092 K5 on enclosed inquiry slip ▲

CALL HOFFMAN
FOR COMPLETE
ENGINEERED FINISHING SYSTEMS

assured performance on
metal parts cleaning—surface treating—painting or plating

If your plant needs a *dependable* mechanized or automatic finishing system to deliver full scale production . . . engineered and installed with minimum complication, to operate with maximum efficiency—then call in HOFFMAN engineers.

Whether it's a single stage manual unit—a multistage conveyor sequence of wash-pickle-chromic acid sprays—an automatic air-operated immersion process—or an electrostatic paint or enamel system . . . HOFFMAN systems are engineered to meet every requirement.

And Hoffman does the *whole* job—*all the way!* From specifications and blueprints through equipment fabrication and assembly to a working installation on assured production basis, you know one firm is responsible for everything! So call in the Hoffman engineer—to answer all your finishing problems.

METAL FINISHING DIVISION
U.S. HOFFMAN MACHINERY CORP.
DEPT. NED, 105 FOURTH AVENUE, NEW YORK 3, N. Y.

▲ For more details circle NED-1093 K5 on enclosed inquiry slip ▲

the easy-to-use Soldering Flux for neat, strong unions.

Use Rubyfluid Flux—liquid or paste—to get neat, strong unions speedily and easily. Rubyfluid is a special fast acting formula, wets out freely, is free from harmful and objectionable fumes, economical to use. Try it—send $1 for special offer—1 pt. liquid, ½ lb. paste flux and helpful booklet.

For Stainless Steel use *Ruby's Stainless Steel Flux*, perfected for that metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

▲ For more details circle NED-1094 K5 on enclosed inquiry slip ▲

New!

R-F BRIDGE

400 kc to 60 Mc

Direct Impedance Measurements
of Antennas • Transmission Lines
Circuit Elements • Tuned Circuits

Resistance Range: 0 to 1,000 Ohms

Reactance Range: ± 5,000 Ohms direct reading at 1 Mc — range varies inversely as frequency

Basic Accuracy: ± (1% + 0.1 Ohm) for Resistance — ± (2% + 1 Ohm) for Reactance — h-f corrections supplied

Type 1606-A R-F Bridge: $535
Type 1606-P1 Carrying Case: $15

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920 S. Michigan Ave. CHICAGO 5 • 1000 N. Seward St. LOS ANGELES 38

▲ For more details circle NED-1095 K5 on enclosed inquiry slip ▲

from "impossible" to
"in production"

with **GRC**
die cast **tiny parts**

The unusual flexibility of Gries' die casting technique may answer your small parts problems. With almost unlimited design latitude, your designs—whether simple or complex—can be cast in zinc alloy, in one automatic operation, completely trimmed.

FACT-FILLED BULLETIN—showing how Gries' ingenious economical operations can solve your problems.

Send today for your copy, prices and samples.

Quick delivery on quantities of 100,000 to many millions.

NO MINIMUM SIZE:
Max. Wgt. ½ oz.
Max. Lgth. 1¾ in.

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Booth 240

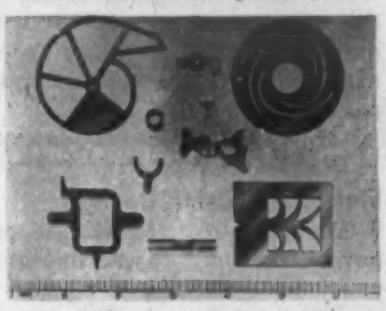
GRIES
World's Foremost Producer of Small Die Castings

GRIES REPRODUCER CORP.
143 Beechwood Ave., New Rochelle, N. Y. Ph. NEw Rochelle 3-8000

▲ For more details circle NED-1096 K5 on enclosed inquiry slip ▲

New Processes & Materials

PRECISION STAMPING PROCESS
fine steel, brass, aluminum parts



Shapes with lateral sections thinner than the metal sheet stock from which they are stamped can be made by a stamping process developed for making parts of sheet steel, brass and aluminum. Flat pieces or three-dimensional parts are produced as desired. Examples are intricate cams, nonmoving parts, letters, trademarks and decorative designs. Service offered by **Federal Tool & Mfg. Co.**, Dept. NED, 3600 Alabama Ave., St. Louis Park, Minneapolis 16, Minn.

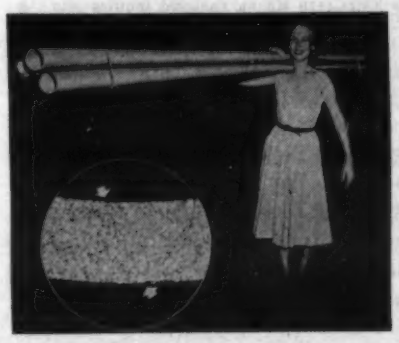
▲ For more details circle NED-1097 K5 on enclosed inquiry slip ▲

ALUMINUM FINISH
soft or high gloss coating

Only 1 minute is required for drying Alumblack, a cold chemical finish for aluminum. It gives a soft or high gloss finish immediately upon application. Low surface tension permits application by dip, spray, rag or brush. There is no surface spotting or density variation and, if left unrubbed, a dull gloss finish is obtained. Finish penetrates the metal surface and has a definite anticorrosive factor. Sample kits are available. Made by **Birchwood Chemical Co.**, Dept. 1, 4500 W. 44th St., Minneapolis, Minn.

▲ For more details circle NED-1098 K5 on enclosed inquiry slip ▲

LIGHT-WALL TUBING
sizes up to 2-1/16 OD available



Types 304 and 321 Weldrawn (welded and cold drawn) stainless light-wall tubing are now available in maximum sizes of 2 1/16 in. OD. Sizes up to 2½ in. OD will be available in near future to match the present range of seamless. Company offers large diameter, light-wall seamless tubing in AISI types 304, 321 and 347 and in Monel metal. Type 347 stainless tubing will also be made available in the new Weldrawn size range. Standard OD tolerances are as low as +0.010 and −0.000-in. on the larger sizes. Maximum tubing length is 28 ft. Made by **Superior Tube Co.**, 1551 Germantown Ave., Norristown, Pa.

▲ For more details circle NED-1099 K5 on enclosed inquiry slip ▲

Clean instructions avoid costly errors. Your production efficiency increased with transparent Job Ticket Holders designed to meet your plant requirements. Over 27 years experience in producing transparent protective envelopes for leading industrials. Representatives in principal cities. Send for information now.

Simon

Simon Products Co., 3211 W. Grand Avenue, Chicago 51, Ill.
Please send samples and information, no obligation. Send following information: Size of insert ____
Holders to be transparent one side ☐ Both sides ☐ Extension ☐
Eyelet ☐ Opening to be located on ____
Any special constructions ____
NAME ____
COMPANY ____
ADDRESS ____
CITY ____ ZONE ____ STATE ____

▲ For more details circle NED-1100 K5 on enclosed inquiry slip ▲

1 man handles Sheet Steel Faster, Easier with a **C-F LIFTER**

C-F Lifters, under one man operation, pick up, carry and unload more sheet steel tonnage per hour than any other method — and at lower cost per ton. Wide carrying angles hold sheets securely — won't damage high grade sheets; tong action insures safe carrying; fast opening and closing adjustments of Lifter jaws permit shifting from one size pack to another in seconds. C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons.

Write for Bulletin SL-28 for specific examples of C-F Lifter operation and economy.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

▲ For more details circle NED-1101 K5 on enclosed inquiry slip ▲

GREAVES GEARS

1 or 1000 made to your exact specifications

Complete production facilities for spur, helical, bevel and worm gears, worms, pinions and leadscrews—metallic, non-metallic—all sizes.

Greaves is geared for action . . . ready to get your order out right on time. Whether you order one or one thousand gears . . . there's no waiting . . . no worrying about delivery. This means less down time . . . more productive time . . . more profit time. Depend on Greaves for all your gear requirements.

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GREAVES MACHINE TOOL CO.
2302 EASTERN AVENUE CINCINNATI 2, OHIO

▲ For more details circle NED-1102 K5 on enclosed inquiry slip ▲

CHECK ON NEW
TOLEDO

HI-WEIGH
TRUCK SCALES

Capacity to 60 tons...Platforms to 60 ft.

Today, doubtful truck weights are more costly than ever . . . affecting your dealings with customers, with vendors, with highway enforcement officials.

New TOLEDO Hi-Weigh Truck Scales are engineered for today's heavy duty needs . . . choice of two-section, four-section or axle load in full range of models. New economy in installation . . . long-life accuracy. Send for literature, form 2417-A. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO®
HEADQUARTERS FOR SCALES

▲ For more details circle NED-1103 K5 on enclosed inquiry slip ▲

New Type STURTEVANT Air Separator

Recovers Fines in Micron Ranges

Now the famous Sturtevant Whirlwind Air Separator, so widely used throughout industry for fast recovery of fines, has been specially designed to "pick-off" classified materials such as pigments, limestone fillers, plastics, oyster shells, etc., in micron sizes.

These highly efficient air separators select a continuously uniform product of desired fineness. Used in a closed circuit with grinding mills, they increase production, cut power costs.

Large feed opening, rugged construction, ease of adjustment, low power consumption assure economy of operation and minimum upkeep. Write for further information.

STURTEVANT MILL COMPANY
114 Clayton St., Boston 22, Mass.

▲ For more details circle NED-1104 K5 on enclosed inquiry slip ▲

SURETY SURESEAL INDUSTRIAL GLOVES SAVE 1/3 ON GLOVE COSTS

. . . says one of the many glove users who tell us of big savings when they switch to Sureseal.

Because Surety's Sureseal synthetic has 4 times greater snag resistance and 10 times greater abrasion resistance, as well as resistance to practically all industrial chemicals, you can expect similar savings on most jobs when you change to Sureseal.

For all the facts, send for new Sureseal bulletin.

THE SURETY RUBBER CO. Carrollton, Ohio

2 WAY PROTECTION TOO, WITH TURN-CUFFS
Cuffs up . . . liquids can't run down arm or into glove. Cuffs down . . . give added inches of arm protection.

In Canada: Safety Supply Co., Toronto

▲ For more details circle NED-1105 K5 on enclosed inquiry slip ▲

GUARANTEED—REDUCED PRESS DOWN-TIME with TOOLSET

. . . . . Your opportunity for BIGGER PROFITS

Do as Morrison Railway Supply Corp. of Buffalo, N. Y. did. . . .they reduced press down-time on this forty punch job to 45 minutes, a savings of more than 90% by using TOOLSET self-contained units in place of fixed dies. The TOOLSET punches required only 2 hrs. set-up time outside the press.

This is only one profit building feature that you get with TOOLSET units, here are more:

- LOW INITIAL COST
- FAST SET UP BY UNSKILLED LABOR
- ELIMINATE COSTLY FIXED DIE SETS
- TOOLING REUSABLE. SET-UP AFTER SET-UP

. . . . .These cumulative savings result in a substantial lowering of per piece part cost. And, in most cases, Toolset Units permit you to render faster service. . .a bonus feature in better customer relations.

Toolset Hole Punching and Notching Units are available in seven widths from ¾" to 3½"; throat depths from 4" to 16". Punches available in round, square, rectangular, obround or special shapes as required.

Start cutting costs NOW— Send coupon for Catalog of complete Toolset Line

TOOLSET Inc.
2181 Elmwood Ave. Buffalo, N. Y.

Toolset, Inc.
2181 Elmwood Ave., Buffalo 7, N. Y.
Gentlemen:
Please furnish a copy of your Catalog on Hole Punching and Notching Units.
Name .....
Title .....
Firm .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-1106 K5 on enclosed inquiry slip ▲

New Literature & Catalogs

Drawing & Drafting Supplies

Compass Instrument & Optical Co.—64-page illustrated reference guide shows an extensive line of domestic and imported drawing instruments and drafting supplies. Included are templates, slide rules, stop watches, readers, magnifiers, magnetic compasses and levels.

▲ For more details circle NED-1107 K5 on enclosed inquiry slip ▲

Electrical Wiring Devices

Eagle Electric Mfg. Co.—Approximately 100 items have been added to the line of electrical wiring devices and specialties in 68-page annual catalog. Included are 125 and 250-v grounding devices which meet new NEC and UL requirements. Also covered are weatherproof switches and receptacles, heavy duty caps and connectors with cord clamps and four-wire Eagalok locking devices.

▲ For more details circle NED-1108 K5 on enclosed inquiry slip ▲

Industrial Systems Engineering

Beckman Instruments Inc., Berkeley Div.—Data reduction and transmission systems, jet engine tachometer controllers, wind tunnel computer controller and process connectors are among systems covered in 12-page illustrated brochure C 901. Examples are given for various types of industrial control and special instrumentation.

▲ For more details circle NED-1109 K5 on enclosed inquiry slip ▲

Graphite Pipe, Fittings & Valves

Falls Industries, Inc.—Operating and dimensional specifications of Impervite resin impregnated graphite pipe, fittings and valves are found in 12-page illustrated catalog 965. Pipe is relatively light in weight, is unaffected by almost all corrosives and can be used at temperatures up to 340° F. Also covered is Graph-I-Tite, a similar material that withstands effects of corrosives at any temperature.

▲ For more details circle NED-1110 K5 on enclosed inquiry slip ▲

Magnetic Pulleys

Stearns Magnetic, Inc.—Details of simplified magnetic pulley selection method are found in 16-page illustrated electro-magnetic pulley and pulley separator bulletin 303-C. Two-coil pulley design which creates a magnetic field with an effective shape is described. Specifications for models for 12 to 60-in. belts are given. Typical installations are shown.

▲ For more details circle NED-1111 K5 on enclosed inquiry slip ▲

Electric Cartridge Heaters

Edwin L. Wiegand Co.—Line of electric cartridge or spot heaters described and illustrated in 4-page bulletin 850 are easily installed in close-fitting drilled holes in dies, platens, molds, rolls and heat sealing equipment. Lead wires are protected against flexing stress and vibration. Styles, sizes and outputs from 30 to 2000 w and from ⅜ to 1¼ in. diameter are covered.

▲ For more details circle NED-1112 K5 on enclosed inquiry slip ▲

Expansion Joints & Suppressors

Cook Electric Co.—Bellows type expansion joints for steam, oil, gas, acid, corrosive chemical and other liquid lines and Hydropad surge and pulsation suppressors are subject of 32-page illustrated catalog No. 52. Construction, specifications and general application data for both Magnilastic products are presented.

▲ For more details circle NED-1113 K5 on enclosed inquiry slip ▲

Electric Furnaces & Ovens

Cooley Electric Mfg. Corp.—Dimensions, specifications, temperatures and control information are among descriptive data offered in catalog on general purpose bench and floor type electric furnaces, high speed electric furnaces, recirculating furnaces, electric ovens and industrial box furnaces. Also covered is series of controlled-atmosphere tool room furnaces for use to 2000° F.

▲ For more details circle NED-1114 K5 on enclosed inquiry slip ▲

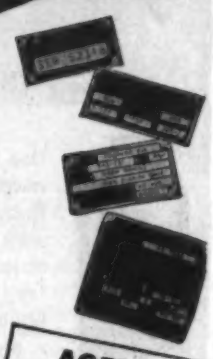
Fabricated Plastic Items

Haveg Corp.—Chemical resistance, properties and fabrication procedures employed in producing products from polyvinyl chloride are tabulated in 12-page illustrated brochure on Haveg 1810. Specifications and dimensional charts are presented on pipe and fittings, dampers, weather caps and valves as well as fabricated items such as fume hoods, self-supporting tanks and similar chemical resistant equipment.

▲ For more details circle NED-1115 K5 on enclosed inquiry slip ▲

How To **Mark Name Plates In 1/5 the Time**

Cutting costs in these times is a good trick if you can do it. You can, on plates requiring detail marking, by using an Automark Electric Metal-Marking Typewriter. The operator lightly touches the key and the Automark does the rest, quickly and automatically. No dial to turn—no lever to pull. Marking output is increased five times and worker fatigue is greatly reduced. Write today for Bulletin 8-16.



AUTOMARK
Electric Metal-Marking
TYPEWRITER
Manufactured Exclusively By

AGENTS
Desirable territories open for responsible representatives. Write giving complete information, lines carried and territory covered.

DEFIANCE MACHINE & TOOL COMPANY
1928 South Vandeventer Ave. • St. Louis 10, Mo.

▲ For more details circle NED-1116 K5 on enclosed inquiry slip ▲

Ten basic sizes with capacities from 30 Mbh to 490 Mbh. Totally enclosed motors.

nyb

UNIT HEATERS

Built to Meet Modern Industrial Requirements

Horizontal Type

Ceiling suspension type with heavy duty, welded steel, fin-and-tube heating element. (Extra heavy non-ferrous coils also available.) Suitable for continuous heating service on steam pressures up to 150 pounds or more.

Bulletin 513

Vertical, Projection Type Also Available

For efficient heating from high-ceiling areas—for door heaters over small openings—or where the horizontal type is not applicable. Ten basic sizes; capacities from 27 to 332 Mbh.

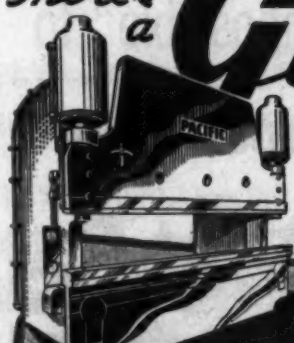
Bulletin 516

IUHA HEAT WITH UNIT HEATERS

THE NEW YORK BLOWER COMPANY
SALES OFFICES • 3171 SOUTH SHIELDS AVENUE • CHICAGO 16
FACTORY, LAPORTE, INDIANA

▲ For more details circle NED-1117 K5 on enclosed inquiry slip ▲

There's a **Giant** *growing in the West*



PACIFIC Press Brakes Now Outsell All Competitors Combined in California and Oregon

This Revolutionary Hydraulic Press Brake, First Introduced in 1946, Has Gained a Tremendous Acceptance by Western Industry and Is Now Rapidly Casting Its Shadow Across the Entire Nation.

THE PACIFIC is the only modern, advanced press brake designed for 1955—It can't be JAMMED—It can't be OVERLOADED—The stroke length is immediately ADJUSTABLE to match any job; imagine changing from a 1" to a 36" stroke in a few seconds! THE PACIFIC HYDRAULIC PRESS BRAKE is VERSATILE—It can be used for Deep Drawing, Heavy Punching, Air Bending, even Straightening. Custom presses can be delivered in a few weeks. Prices are competitive including freight costs from the West Coast. Sales and service available in all major cities.

PACIFIC INDUSTRIAL MFG. CO.
848 - 49th Avenue - Oakland, Calif.

▲ For more details circle NED-1118 K5 on enclosed inquiry slip ▲

SAVE 2 WAYS ON PARTS CLEANING

Kleerflo SUPER CLEANMASTER

1. low first cost 2. operates for less!

Cleans automatically—saves time, labor. Air agitation produces scrubbing action eliminating manual cleaning. Patented Pump continuously filters compound. Super-power JET AIR GUN provides faster parts drying. Cleans all types of metal parts. Ideal for production or maintenance.

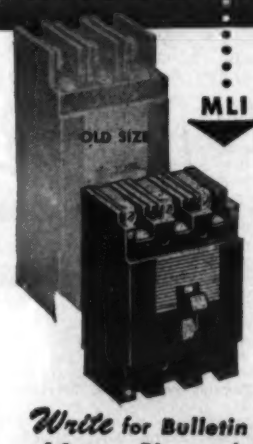
WRITE TODAY FOR DESCRIPTIVE BULLETIN

The Kleer-Flo Company
252 West 57th St., New York 19

For more details circle NED-1119 K5 on enclosed inquiry slip

small

100 Ampere Frame • 600 Volt
CIRCUIT BREAKER



MLI This compact breaker has all the construction features of the larger 100, 225 and 600 ampere frames—yet it's 50% smaller.

Available in 15, 20, 30, 40, 50, 70 and 100 amperes at 600 volts.

Write for Bulletin 600 for complete description of Square D's complete line of THERMAL-(Coilless) MAGNETIC Circuit Breakers . . . Address Square D Company, 6060 Rivard St., Detroit 11, Michigan.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

For more details circle NED-1120 K5 on enclosed inquiry slip

Cost records have shown several hundred dollars saved through the use of these new

METAL PATTERN MARKERS, PUNCH PAL and PUNCH PAL JR.

They accurately transfer brake marks, hole centers, cut-outs, etc., from pattern or template to material to be prick-marked. Punch Pal fits into 7/16-in. pattern holes, while Punch Pal Jr. fits ¼-in. hole. Punches can be installed on patterns up to 22-gage thickness. Edges of the hole over which punch is positioned are flared upward so as not to destroy bottom flushness of pattern. Flare also assures recentering within a few thousandths of an inch when markers are moved from one pattern to another. Developed for the metalworking trades.

WILDER MANUFACTURING CO., INC.

Route 2, Box 880, Carmel, Calif.

For more details circle NED-1121 K5 on enclosed inquiry slip

New Processes & Materials

LIGHTWEIGHT HOSE & DUCT
vinyl strip reduces exterior wear

Flexaust hoses and Portovent retractable ducts made of coated fabrics and spiral wire reinforcement are available with a vinyl wearstrip which reduces exterior wear from contact with rough and abrasive surfaces. This strip is bonded over the spiral wire reinforcement where the hose is most exposed to damage in spot air conditioning, ventilating, dust collection, fume control and materials handling uses. Wearstrip is available for 4 to 12-in. ID Flexaust hoses and 3 to 36-in. Portovent retractable ducts. Made by **Flexaust Co.**, Dept. NA, 100 Park Ave., New York 17, N. Y.

For more details circle NED-1122 K5 on enclosed inquiry slip

REFRACTORY COATING
gem-hard aluminum oxide type

Applied with improved Ceramic Flamespray process, Flame Rock aluminum oxide refractory coating provides excellent electrical and thermal insulation for wide variety of metallic and nonmetallic materials. Coating is about twice as hard as tool steel with melting point above 3600° F. It is unaffected by most corrosive agents, including many molten metals, and resists chipping even under direct impact. Slight porosity enables it to hold lubricants, adapting it to use as bearing material. Suggested uses are foundry molds and melting pots, pump linings, auto cylinder linings, tools and dies, jet engine and rocket parts, welding equipment, valve seats and metal rolls. Made by **Montaine Corp.**, Dept. N, 7127 S. Chicago Ave., Chicago 19, Ill.

For more details circle NED-1123 K5 on enclosed inquiry slip

Buffing & Finishing Compounds

Globe Compound Co.—Data on both bar and liquid abrasive compositions for buffing and finishing operations are contained in technical bulletin T-5. Featured are compounds for both coloring and cutting stainless steel and nonferrous metals.

For more details circle NED-1124 K5 on enclosed inquiry slip

NOW 3 types of contact in famous LINEMASTER® CLIPPER FOOT SWITCHES

MOMENTARY CONTACT (press to start—release to stop)

MAINTAINED CONTACT (press to start—press to stop)

IMPULSE CONTACT (press and release—fraction of a second contact)

Sizes: 4½"x3½" x1½"
Weight: 2½ lbs.

Now, in addition to popular Momentary Contact "Clipper", Linemaster offers Maintained Contact "Clipper" for medium heavy duty applications and Impulse Contact "Clipper" for split-second contact. Rugged, streamlined black cast iron housings, sponge rubber skid pads. High electrical ratings.

WRITE FOR BULLETIN AND PRICES.

Let us quote on your switch requirements.

LINEMASTER SWITCH CORP.
424 Woodstock Terrace • Woodstock, Conn.

For more details circle NED-1125 K5 on enclosed inquiry slip

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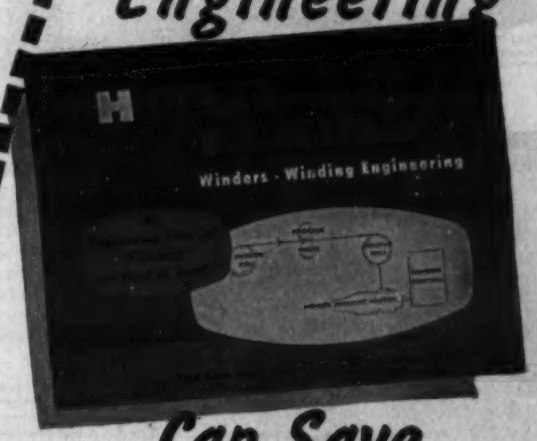

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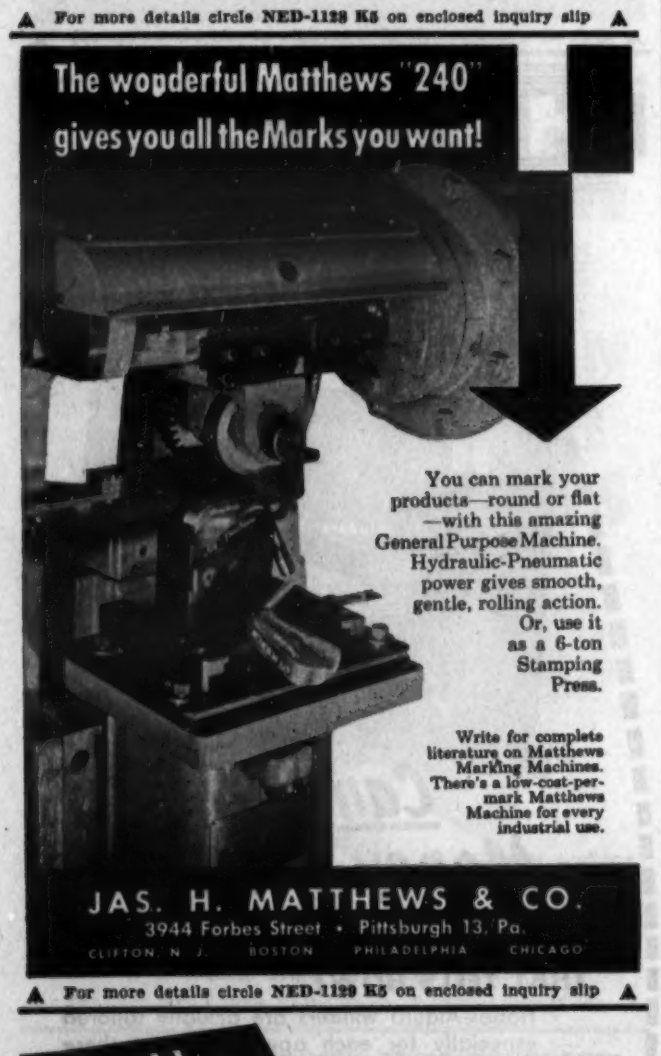

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Index to Advertisers

A

A-B-C Packaging Machine Corp. 67
A'G'A Div. of Elastic Stop Nut Corp. of America 41
Abart Gear & Machine Co. 28
Abell-Howe Co. 96
Ace Plastic Co. 13
Acme Electric Corp. 110
Acme Steel Co. 67
Actionflex Div., Orchard Industries, Inc. 58
Acushnet Process Co. 18
Adams, R. P., Co. 5
Aeroil Products Co. 108
Aeroquip Corp. 84
Aerovent Fan Co. 14
Aget Manufacturing Co. 17
Air-Maze Corp. 22
Akro-Mils, Inc. 4
Albion Industries, Inc. 36
Alemite Div., Stewart-Warner 77
Allegheny Steel Band Co. 110
Allen, Alva F. 77
Allen-Bradley Co. 47
Allied Products Corp. 5
Allied Radio Corp. 30
Allis-Chalmers Mfg. Co. 59, 110
Almco Div., Queen Stove Works 15
Alpha Molykote Corp. 52
Alsto Co. 81
Alter, Harry, Co. 75
Aluminum Co. of America 30, 85
Alvey-Ferguson Co. 33, 120
American Air Filter Co. 59
American Box Co. 108
American Brass Co. 107
American Broach & Machine Co. 63
American Crucible Products Co. 32
American Metal Hose Branch, American Brass Co. 107
American Monorail Co. 36
American Optical Co. 37, 102
American Pulley Co. 40, 95
American Recording Chart Co. 36
American Solder & Flux Co. 83
Ames, B. C., Co. 58
Anaconda Wire & Cable Co. 73, 107
Anderson, V. D., Co. 102
Angier Corp. 93
Apex Machine & Tool Co. 38
Aqua Electric Scale Control, Inc. 4
Aqua Survey & Instrument Co. 6
Arcos Corp. 88
Armco Drainage & Metal Products, Inc. 30
Armstrong Bray & Co. 22
Armstrong Bros. Tool Co. 20
Armstrong & White 112
Aro Equipment Corp. 37
Atlas Chain & Mfg. Co. 5
Atlas Press Co., Clausing Div. 54
Aurand Mfg. & Equip. Co. 11
Aurora Equipment Co. 54
Automatic Switch Co. 98
Automatic Transportation Co. 106
Automotive Rubber Co. 111
Avery Adhesive Label Corp. 101

B

Babcock & Wilcox Co., The Tubular Products Div. 85
Bachman, John D., & Co. 91
Bahnson Co. 94
Bakelite Co., Div. of Union Carbide & Carbon Corp. 103
Balance Engineering Co. 40
Baldwin-Lima-Hamilton Corp. 19
Barber-Colman Co. 70
Barnes Drill Co. 64
Barnstead Still & Sterilizer Co. 96
Basnik, Vince, Co. 94
Bassick Co. 102
Bausch & Lomb Optical Co. 67
Beckett-Harcum Co. 4
Bellofram Corp. 92
Bellows Co. 70
Bennett Mfg. Co. 104
Bennett Pump Div., John Wood Co. 52
Bergander Mfg. Co. 6
Bergen Wire Rope Co. 53
Berkeley Div., Beckman Instruments Inc. 48
Beverly Shear Mfg. Co. 39
Biddle, James G., Co. 62
Bin-Dicator Co. 23
Black & Decker Mfg. Co. 120
Black Diamond Saw & Machine Works 80
Black Drill Co. 59
Black & Webster, Inc. 111
Blaw-Knox Equipment Div., Blaw-Knox Co. 29
Bokum Tool Co. 89
Bostitch, Inc. 93
Bowser, Inc. 83
Brady, W. H., Co. 46
Brainard Steel Div., Sharon Steel Corp. 68
Breeze Corp. 31
Brown, W. R., Corp. 71
Brown Engineering Co. 84
Browning Mfg. Co. 2
Brulin & Co. 25
Buck Tool Co. 119
Buda Div., Allis-Chalmers Mfg. Co. 110
Buell Engineering Co. 113
Buffalo Forge Co. 88
Buffalo Weaving & Belting Co. 12
Burgess-Manning Co. 51
Burndy Engineering Co. 73
Buschman, E. W., Co. 8
Bussmann Mfg. Co. 71

C

C. E. M. Co. 65
Cabot, Samuel, Inc. 63
Calculagraph Co. 83
Cambridge Wire Cloth Co. 88
Capco 49
Carborundum Co. 39
Cardwell Mfg. Co. 65
Carpenter Steel Co. 25, 66
Carter Controls, Inc. 10
Celluplastic Corp. 36
Century Electric Co. 32
Chain Belt Co., Shafer Bearing Div. 50
Challenge Machinery Co. 43
Champion Lamp Works 110
Chicago Eye Shield Co. 78
Chicago Hardware Foundry Co. 81
Chicago Rawhide Mfg. Co. 16
Chicago Tool & Engr. Co. 109
Chisholm-Moore Hoist Div. 9
Cissell, W. M., Mfg. Co. 112
Clark Bros. Bolt Co. 77
Clarke Sanding Machine Co. 87
Cleveland Crane & Engineering Co. 44, 91
Cleveland Tramrail Div., Cleveland Crane & Engineering Co. 44
Cleveland Vibrator Co. 42, 81
Cleveland Worm & Gear Co. 57
Clifford Mfg. Co. 66
Clippard Instrument Laboratory, Inc. 27
Colonial Rubber Co. 74
Colorado Fuel & Iron Corp. 48
Columbia Electric Mfg. Co. 32
Columbus McKinnon Chain Corp. 9, 74
Comar Electric Co. 78
Commander Mfg. Co. 64
Cone Drive Gears, Div. Michigan Tool Co. 10
Conneaut Rubber & Plastic Co. 68
Consolidated Engineering Corp. 25
Consolidated Vacuum Corp. 11
Continental Gin Co. 54
Continental Tool Works, Div. of Ex-Cell-O Corp. 90
Control Engineering Co. 16
Convoy, Inc. 50
Cooks' Inc. 89
Cool-Amp Co. 53
Cordomatic Div., Vacuum Cleaner Corp. of America 80
Cords Ltd., Div., Essex 53
Corning Glass Works 40
Counsel Machine Co. 52
Cover, H. S. 8
Cramer Posture Chair Co. 59
Crane Co. 110
Crane Packing Co. 83
Crescent Mfg. Co. 99
Cross Co. 47
Crown Gear, Div. of Harrington & Richardson, Inc. 69
Cullen-Friestedt Co. 115
Curran Corp. 27, 119
Curtis Pneumatic Machinery Div., Curtis Mfg. Co. 27
Cutler-Hammer, Inc. 43

D

Dahlstrom Machine Works, Inc. 64
Daven Co. 42
Decker Mfg. Co. 48
Defiance Machine & Tool Co. 116
DeLaval Steam Turbine Co. 47
Delta Power Tool Div., Rockwell Mfg. Co. 100
DeLuxe Metal Furniture Co. 11
Deming Co. 22
Denison, R. B., Mfg. Co. 8
Denison Engineering Co. 80
Derby Sealers, Inc. 42
Detroit Hoist & Machine Co. 92
Detroit Power Screwdriver Co. 91
Detroit Surfacing Machine Co. 53
DeVilbiss Co. 14
DeWalt, Inc. 54
Diebold, Inc. 84
Dillon, W. C., & Co. 19, 88
Dixon Valve & Coupling Co. 28
Dodge Mfg. Corp. 32
Dole Valve Co. 80
Dollinger Corp. 26
Downs Crane & Hoist Co. 12
Draco Corp. 46
Dry Clime Lamp Corp. 46
Duff-Norton Co. 39
Du-Lite Chemical Corp. 109
duPont de Nemours, E. I., & Co. 27
Durant Mfg. Co. 13
Duro-Test Corp. 2

E

Eastman Kodak Co. 21, 59, 83
Eaton Mfg. Co., Reliance Div. 58
Economy Engineering Co. 91
Edmont Mfg. Co. 70
Edmund Scientific Corp. 120
Elastic Stop Nut Corp. of America 18, 41
Electric Storage Battery Co. 52
Elgin National Watch Co., Abrasives Div. 38
Elliott Co. 111
Ellis, Geo. D., & Sons, Inc. 113
Elwell-Parker Electric Co. 96
Engelberg Huller Co. 102
Equipment Mfg., Inc. 57
Equipto Div. Aurora Equipment Co. 54
Essex Wire Corp. Cords Ltd. Div. 53
Etteo Tool Co. 98
Evans Rule Co. 16
Exact Weight Scale Co. 37
Ex-Cell-O Corp. 23, 90
Exide Industrial Div., Electric Storage Battery Co. 52

F

Fab-Weld Corp. 46
Fafnir Bearing Co. 40
Falk Corp. 76
Farquhar, A. B., Div. Oliver Corp. 76
Farrelloy Co. 120
Fawick Airflex Div., Fawick Corp. 22, 105
Federal Press Co. 10
Federal Products Corp. 63
Federal Tool & Mfg. Co. 56
Feedall, Inc. 100
Felters Co. 95
Fenwal Inc. 40, 99
Ferrara, Inc. 2
Ferro Corp. 86
Field, Walter W., & Son, Inc. 60
Fielden Instrument Div. Robertshaw-Fulton Controls Co. 72
Filon Plastics Corp. 57
Finn, T. R., & Co. 6
Finnell Systems, Inc. 44
Firth-Loach Metals, Inc. 61
Fischer Special Mfg. Co. 41
Flexaust Co. 99
Flexible Steel Lacing Co. 65
Flexible Tubing Corp. 24
Flexo Products, Inc. 73
Flexonics Corp. 114
Flexrock Co. 120
Flightex Fabrics, Inc. 20
Food Machinery & Chemical Corp. 45, 100
Ford, M. A., Mfg. Co. 12
Foster, L. B., Co. 29
Fostoria Pressed Steel Corp. 25, 74
Foxboro Co. 5
Frantz, S. G., Co. 56
Frontier Bronze Corp. 53

G

Gair, Robert, Co. 55, 82
Galland-Henning Nopak Div. 14
Galloway, G. W., Co. 82
Gast Mfg. Corp. 97
General Box Co. 55
General Plate Div., Metals & Controls Corp. 12
General Radio Co. 115
General Tire & Rubber Co. 33, 77
Geroter May Corp. 65
Gerrard Steel Strapping Div., U. S. Steel Corp. 112
Globe Co., Grip-Strut Div. 84
Globe Hoist Co. 79
Goodrich, B. F., Co. 29, 100
Goodyear Tire & Rubber Co. 23, 31
Gottscho, Adolph, Inc. 103
Govro-Nelson Co. 55
Graham Transmissions, Inc. 68
Graphic Systems 60
Gravely Tractors, Inc. 5
Graymills Corp. 103
Greaves Machine Tool Co. 115
Greenlee Tool Co. 93
Gries Reproducer Corp. 115
Grip Nut Co. 2
Guardian Electric 106

H

Hallemite Mfg. Co. 106
Hamilton Caster & Mfg. Co. 41
Hamilton Rubber Mfg. Corp. 23
Hamilton Tool Co. 13, 15, 17
Hammond Machinery Builders, Inc. 107
Handy & Harman 20
Hannifin Corp. 108
Hansen, A. L., Mfg. Co. 26
Hansen Manufacturing Co. 107
Harrington Co. 62
Hartford Steel Ball Co. 49
Haskins 19
Heat-Timer Corp., Recorder Div. 112
Heli-Coil Corp. 3
Herig, J. S., & Co. 3
Hetherington & Berner Inc. 63
Hevi Duty Electric Co. 38
Hild Floor Machine Co. 7
Hill Acme Co. 64
Hills-McCanna Co. 113
Hobbs Mfg. Co. 86, 117
Hollaender Mfg. Co. 23
Homestead Valve Mfg. Co. 56
Hoover Ball & Bearing Co. 90
Horn, A. C., Co. 27, 90
Houdaille-Hershey of Indiana, Inc. 60, 61
Hough, Frank G., Co. 87
Houghton, E. F., & Co. 41
Howard Industries, Inc. 94
Hyde Mfg. Co. 23
Hydraulic Manufacturing Co. 48
Hydreco Div., N. Y. Air Brake Co. 18
Hydroway Scales, Inc. 14

I

Illinois Testing Laboratories, Inc. 38, 107
Industrial Engineering Equipment Co. 26
Industrial Filtration Co. 55
Industrial Marking Equip. Co. 51
Industrial Products Co. 31
Industrial Retaining Ring Co. 20
Industrol Corp. 85
Ingersoll-Rand Co. 60
Injection Molders Supply Co. 111
Insl-x Sales Co. 102
International Nickel Co. 31
International Research & Development Corp. 64
Interstate Rubber Products Corp. 81
Ironbound Box & Lumber Co. 53
Irvington Div., Minnesota Mining & Mfg. Co. 15

J

Jabsco Pump Co. 48
Jaco Devices, Inc. 51
Jacobs Mfg. Co. 34
Jeffrey Mfg. Co. 105
Jelliff, C. O., Mfg. Corp. 62
Johns-Manville 61
Johnson Bronze Co. 17
Johnson Mfg. Corp. 45
Jomac Inc. 11
Jones, Howard B., Div., Cinch Mfg. Corp. 24

K

K-P Mfg. Co. 93
Kasson Die & Motor Corp. 64
Keller Tool Div., Gardner-Denver 33
Kent Co. 120
Kester Solder Co. 26, 95
Kett Tool Co. 22
Key Co. 35
King, Andrew 61
Kinney Mfg. Div., N. Y. Air Brake Co. 89
Klaas Machine & Mfg. Co. 2
Kleer-Flo Co. 117
Kollmann Mfg. Co. 97
Korfund Co. 67
Kraus Design, Inc. 51
Krieg, Victor J., Inc. 70

L

Lake Shore, Inc. 99
Lamson Corp. 76
Lamson & Sessions Co. 21
Landis Machine Co. 17
Lapeer Mfg. Co. 82
Larsen Products Corp. 97
Le Count Tool Works, Inc. 112
Ledeen Mfg. Co. 70
Leffel, James, & Co. 51
Leonard Precision Products Co. 10
Lepel High Frequency Laboratories, Inc. 35
Lermer Plastics, Inc. 67
LeRoi Div. Westinghouse Air Brake Co. 9
Leslie Co. 87
LeTourneau, R. G., Inc. 50
Lewis-Shepard Products, Inc. 72
Lewis Welding & Engr. Corp. 75
Lexco Engineering & Mfg. Corp. 8
Lift Trucks, Inc. 54
Lindberg Air & Hydraulic Div., Teer-Wickwire & Co. 89
Linde Air Products Co. A Div. of Union Carbide & Carbon Corp. 19, 67
Linemaster Switch Corp. 117
Link-Belt Co. 51
Lion Fasteners 70
Lockheed Aircraft Corp. 69
Logan Co. 4
Loomis Machine Co. 9
Lovell Mfg. Co. 72
Lucas-Milhaupt Engr. Co. 57
Lunkenheimer Co. 49

Mc

McCloskey Co. of Pittsburgh 74
McGill Mfg. Co. 43, 72

M

M B Manufacturing Co. 19
M-M-A, Inc. 18
MacDell Corp. 40
Mackintosh-Hemphill, Div. of E. W. Bliss Co. 87
Magline Inc. 19
Magna-Lock, Inc. 87
Mall Tool Co. 112
Manco Mfg. Co. 109
Manheim Mfg. & Belting Co. 32
Marshalltown Mfg. Co. 31
Martin-Decker Corp. 25
Martindale Electric Co. 6
Mason-Neilan Regulator Co. 101
Master Appliance Mfg. Co. 78
Mateer, G. Diehl, Co. 9
Mathews Conveyer Co. 49
Matthews, Jas. H., & Co. 118
May-Fran Engineering, Inc. 66
Mead Specialties Co. 76
Mercoid Corp. 101
Merit Products, Inc. 33
Merrill Brothers 105
Metals & Controls Corp. 8, 12
Metzgar Conveyor Co. 73
Meyers, W. F., Co. 26
Micro Switch Div. Minneapolis-Honeywell Regulator Co. 95
Midland Industrial Finishes 94
Mill-Rose Co. 78
Milwaukee Dustless Brush Co. 39
Mixing Equipment Co. 50
Modern Machine Tool Co. 84
Modernair Corp. 33
Monroe Co. 3
Morris Machine Works 72
Morse Mfg. Co. 65
Mortell, J. W., Co. 86
Moto-True Co. 42
Mueller Brass Co. 37
Multi-Clean Products, Inc. 114
Multifinish Mfg. Co., Magnetool Div. 99
Multistamp Co. 57

N

Nagle Pumps, Inc. 69
Nailing Machine Section Food Machinery & Chemical Corp. 45
National Air Sander, Inc. 63
National Dryer Sales Corp. 38
National Machine Products Co. 17
National Screw & Mfg. Co. 16
Naylor Pipe Co. 57
New England Carbide Tool Co. 101
New Hermes Engraving Machine Corp. 98
New Jersey Machine Corp. 110
New York Air Brake Co. 18, 89
New York Blower Co. 116
Newark Electric Co. 83
Newark Wire Cloth Co. 26
Niagara Blower Co. 71
Nicholson, W. H., & Co. 47
Norgren, C. A., Co. 42, 103
Northern Engineering Works 15
Norton Co. 56
Nu-Jett Products Corp. 71
Nutting Truck & Caster Co. 30

O

OPW Corp. 82
Ohio Brass Co. 16
Ohio Gear Co. 46
Ohio Nut & Bolt Co. 94
Oliver Corp. A. B. Farquhar Div. 76
O'Neil-Irwin Mfg. Co. 45
Orangeville Mfg. Co. 34
Orchard Industries, Inc. 58
Orr & Sembower, Inc. 18
Osborn Mfg. Co. 108
Oster Mfg. Co. 92
Overbeke-Kain Co. 78
Owatonna Tool Co. 35, 66
Ozalid, A Div. of General Aniline & Film Corp. 113

P

Pacific Industrial Mfg. Co. 116
Pak-Rapid Inc. 84
Palley Supply Co. 58
Palmer, Harold L., Co. 119
Palmer Thermometers, Inc. 55
Palnut Co. 65
Paltier Corp. 98
Panalarm Products, Inc. 103
Pangborn Corp. 9
Pannier Corp. 28
Pantex Manufacturing Corp. 109
Paragon Electric Co. 93
Parker Appliance Co. 118
Parr Mfg. Corp. 86
Pasadena Hydraulics Inc. 3
Pass & Seymour, Inc. 63
Patterson Foundry & Machine Co. 69
Pedrick Tool & Machine Co. 95
Peerless Pump Div., Food Machinery & Chemical Corp. 100
Pekay Machine & Engineering Co. 4
Penetone Co. 7
Pennsylvania Scale Co. 100
Pereny Equipment Co. 68
Perfecting Service Co. 79
Permacel Tape Corp. 92
Pfaudler Co. 99
Phaostron Co. 6
Pike, E. W., & Co. 8
Pine, William S. 75
Pines Engineering Co. 110
Pioneer Rubber Co. 79
Pitt Industries 9
Pittsburgh Steel Products Co. 13
Pneu-Trol Devices, Inc. 88
Polymer Corp. of Penna. 113
Portage Double-Quick Tool Co. 97
Porter-Cable Machine Co. 41
Potdevin Machine Co. 90
Potts, Horace T., Co. Speedline Stainless Steel Fittings Div. 98
Precise Products Corp. 13
Precision Scientific Co. 113
Presstite Engineering Co. 62
Production Instrument Co. 61
Progressive Mfg. Co. 79
Propellair Div., Robbins & Myers, Inc. 82
Protective Closures Co. 37
Protectoseal Co. 47
Pulmosan Safety Equipment Corp. 2
Punch-Lok Co. 45

Q

Quaker Rubber Corp., Div. of H. K. Porter Co., Inc. of Pittsburgh 24
Quincy Compressor Co. 112

R

Ranco Industrial Products Corp. 7
Randall Graphite Bearings, Inc. 36
Raymond Corp. 98
Reed Manufacturing Co. 33
Reeves Pulley Co. 35
Reliance Div., Eaton Mfg. Co. 58
Reliance Electric & Engrng. Co. 105
Remington Arms Co. 24, 25
Remington Rand Div., Sperry Rand Corp. 29
Resolite Corp. 90
Revolvator Co. 26
Reynolds Metals Co. 7
Rhodes, M. H., Inc. 37
Richard Brothers Punch Div., Allied Products Corp. 5
Richards, J. A., Co. 16
Richards-Wilcox Mfg. Co. 34
Ridge Tool Co. 52
Rigidized Metals Corp. 43
Rivett Lathe & Grinder, Inc. 38
Robbins & Myers, Inc. 13, 39, 82
Roberts, Weldon, Rubber Co. 44

Robertshaw-Fulton Controls Co. 72
Rock Island Millwork Co. 11
Rock-Tred Corp. 117
Rockford Clutch Div. Borg-Warner 34
Rockwell Mfg. Co. 35, 100
Rockwood Sprinkler Co. 29, 79
Roll-A-Reel 114
Rossen Co. 5
Rotary Lift Co. 12
Roto-Finish Co. 86
Ruberoid Co. 66
Ruby Chemical Co. 115
Ruemelin Mfg. Co. 32
Russell & Stoll Co. 9

S

SKF Industries, Inc. 60, 61
S-P Mfg. Corp. 58
Sabin Machine Co. 106
Salem-Brosius, Inc. 81
Sarco Co. 31
Scherr, George, Co. 109
Schmidt, Geo. T., Inc. 111
Schrader's, A., Son 18, 101
Scruggs, Loyd, Co. 78
Service Machine Co. 99
Sessions, J. H., & Son 44
Set Screw & Mfg. Co. 89
Sexauer, J. A., Mfg. Co. 28
Shakeproof, Div. Illinois Tool Works 69
Sheehan, R. T., Co. 105
Shepard Niles Crane & Hoist Corp. 73
Shoe Form Co. 97
Sico Mfg. Co. 14
Simon Products Co. 115
Skinner, M. B., Co. 62
Snap-Tite, Inc. 80
Sommer Metalcraft Corp. .. 55
Sonoco Products Co. 59
South Bend Lathe 58
South Chester Corp. 59, 70
Southern Screw Co. 43
Spaulding Fibre Co. 118
Speco, Inc. 3
Speed Selector Inc. 62
Speedline Stainless Steel Fittings Div., Horace T. Potts Co. 98
Spencer Thermostat Div. Metals & Controls Corp. .. 8
Spencer Turbine Co. 77
Spradri Co. 30
Spray Engineering Co. 114
Spraying Systems Co. 77
Sprout-Waldron & Co. 54
Square D Company 24, 117
Stackbin Corp. 34
Stackpole Carbon Co. 11
Stalwart Rubber Co. 104
Standard Conveyor Co. 92
Standard Electrical Tool Co. 93
Standard Pressed Steel Co. 30, 51, 74, 91
Stanley Works 27, 54, 95
Sta-Warm Electric Co. 11
Stearns Magnetic, Inc. 120
Stephens-Adamson Mfg. Co. 34, 35, 71
Sterling Engr. & Mfg. Co. .. 43
Sticht, Herman H., Co. 62
Stow Mfg. Co. 28
Streeter-Amet Co. 63
Strong, Carlisle & Hammond Co. 24
Strong Electric Corp. 6
Sturdy Broaching Service, Inc. 12
Sturtevant Mill Co. 116
Sugar Beet Products Co. 100
Superior Hone Corp. 6
Superior Pneumatic & Mfg., Inc. 85
Superior Tube Co. 55
Surety Rubber Co. 116
Sutton Mfg. Corp. 92
Swartwout Co. 96
Swiss Fabricating, Inc. 68
Synthane Corp. 44

T

Thermo Electric Mfg. Co. .. 42
Thomas & Betts Co. 101
Thompson Electric Co. 94
Tinnerman Products, Inc. .. 81
Titeflex, Inc. 108
Tokheim Corp. 58
Toledo Pipe Threading Machine Co. 48
Toledo Scale Co. 115
Tomkins-Johnson Co. 47
Tooloet, Inc. 116
Torrington Co. 46
Tower, A. J., Co. 50
Townsend Co. 66
Transeal, Ltd. 97
Trippe Mfg. Co. 7
Trombetta Solenoid Corp. 69
Tropical Paint Co. 114
Tube Turns Plastics, Inc. .. 104
Turco Products, Inc. 3
Tuthill Pump Co. 108
Twin Disc Clutch Co. 29

U

Uhrden, Inc. 56
Union Carbide & Carbon Corp., Bakelite Co. 103
Union Carbide & Carbon Corp., Linde Air Products Co. 19, 67
Union Metal Mfg. Co. 60, 61
Union Steel Products Co. 49
Unit Crane & Shovel Corp. 104
United Electric Controls Co. 75
United Floor Machine Co. .. 10
U. S. Electrical Motors Inc. 72
U. S. Gasket Co. 111
U. S. Graphite Co. 80
U. S. Hoffman Machinery Corp. 114
U. S. Steel Corp. 106, 112
U. S. Stoneware Co. 19
U. S. Tool Co. 64
Universal Engineering Co. .. 65
Universal Winding Co. 100

V

Vapor Blast Mfg. Co. 10
Vapor Heating Corp. 36, 73
Veeder-Root, Inc. 44, 101
Vogel-Peterson Co. 41
Vulcan Electric Co. 85

W

Wallace Supplies Mfg. Co. 20, 21
Waterloo Valve Spring Compressor Co. 107
Watlow Electric Mfg. Co. 10
Wayne Mfg. Co. 41
Wayne Pump Co. 60
Weatherhead Co. 14, 15
Weckesser Co. 68
Wedge-Wire Corp. 102
Wells Mfg. Corp. 107
Wendt-Bonis Co. 96
Wesson Products Co. 17
West Bend Equipment Corp. 50
Western Tool & Mfg. Co. 15
Weston Electrical Instrument Corp. 22, 85
Wheel Trueing Tool Co. 45
Wheelabrator Corp. 21
Wheeler Insulated Wire Co. 104
Wheeler Reflector Co. 79
White, S. S., Dental Mfg. Co. 97
Whitehead Stamping Co. 76
Wickwire Spencer Steel Div. 48
Wiegand, Edwin L., Co. 4, 75
Wilder Mfg. Co. 117
Willson Products, Inc. 40
Wilshire Power Sweeper Co. 4
Wing, L. J., Mfg. Co. 104
Wire & Iron Products, Inc. .. 104
Wirenold Co. 56
Wittek Mfg. Co. 49
Wood, John, Co., Bennett Pump Div. 52
Wright Metalcoaters, Inc. .. 5

Y

Yarnall-Waring Co. 74

Z

Zallea Brothers 44

Index to Products

A

Abrasive Products 21, 24, 39, 44, 56, 117
Adhesives 97
Air Pads 23
Alloys 38, 100, 102, 110

B

Balancing Equipment 40, 64
Balers 46
Balls 13, 90
Baskets 43, 104
Batteries 13, 52
Bearings 17, 35, 36, 49, 50, 60, 61, 90, 108
Bellows 31, 92, 108
Belting 27, 32
Belts, Conveyor 88, 114
Bench Tops 11
Benders 16, 58, 95, 110
Bins & Boxes 34, 54, 57, 91, 97, 107
Boxes & Crates, Wooden .. 94, 108
Brakes 26
Brazing Equipment & Materials 20, 57
Brushes, Electric 80
Brushes, Industrial 39, 78, 106
Building Materials 22, 57, 66, 90, 98, 113, 120
Buildings 30, 74
Burners, Oil & Gas 52
Bushings, Drill 23, 65

C

Cabinets 4
Cams & Followers 43
Cans, Brush Top 113
Car Spotters 51
Carbon & Graphite Products. 11
Cases & Chests 107
Casters 36, 102
Castings 106
Cements, Repair 90, 97, 106
Chains & Fittings 5
Chairs & Stools 3, 49
Checks 34, 63, 85, 119
Clamping Devices .. 45, 60, 76, 82
Clamps, Lifting 11, 105, 115
Cleaners, Air 5, 18, 22, 24, 71, 116
Cleaners, Drain 48, 97
Cleaners, Vacuum 7, 18, 44, 77, 87, 114
Cleaning Machines 36, 56, 108, 109, 112, 117
Cleaning Materials 3, 7, 25, 27, 105, 119
Clothes 17, 34, 42, 50, 65
Coatings, Protective 5, 19, 83, 85, 94, 101, 109, 113, 114, 117
Communications Equipment .. 104
Compressors, Air 9, 27, 29, 60, 97, 112
Condensation Preventive 86
Connecting Rods & Ends ... 40
Controls, Air & Hydraulic .. 4, 10, 16, 18, 27, 38, 48, 70, 80, 88, 91, 98, 101, 106
Controls, Bin Level 23, 34
Controls, Electric 1, 8, 21, 24, 26, 28, 30, 31, 44, 71, 94, 95, 104, 117
Controls, Level .. 1, 35, 42, 49, 72
Controls, Pressure & Temperature 8, 18, 40, 62, 69, 75, 77, 82, 87, 99, 101, 113
Controls, Production 60
Controls, Remote 10, 116
Conveyor Accessories 54
Conveyors 4, 8, 33, 35, 41, 49, 50, 55, 66, 70, 71, 73, 76, 92, 105, 110, 120
Coolant Systems 103
Counting Devices 1, 13, 44, 48, 61, 63, 101
Couplings, Flexible 2, 68, 75, 90
Crane Accessories 57, 106
Cranes .. 36, 44, 56, 62, 64, 96, 104
Cutters, Metal 16, 51, 109
Cutting Equipment, Gas .. 19, 61
Cutoff Machines 20, 21
Cylinders, Air & Hydraulic .. 14, 27, 30, 33, 58, 70, 72, 76, 89

D

Deburring Equipment 10, 15, 19, 86
Dehumidifiers 57
Demagnetizer 87
Diaphragms 92
Dies & Accessories 5, 83, 116
Dispensers, Tape 42, 110
Dock Covers 7, 49
Dockboards & Ramps .. 9, 19, 86
Door Operators 70
Drafting Equipment 11, 65, 81, 88, 106, 116
Drill Heads, Adjustable 64
Drilling Machines 15, 33, 55
Drills & Accessories 45, 59
Drills, Masonry 45, 101, 106
Drives, Machine .. 29, 31, 32, 60, 69
Drives, Variable Speed 35, 36, 40, 62, 68, 84, 91, 92, 114
Dryers, Hand 38
Drying Equipment .. 30, 46, 71, 85
Ducts 58, 99, 117
Dust Collectors .. 1, 9, 17, 113, 116

E

Electronic Equipment 3, 30, 83, 89, 104, 111, 112
Elevating Equipment 8, 12, 13, 14, 28, 72, 79, 82, 91
Engines, Industrial 13, 44, 72
Engraving Machines 96
Envelopes, Transparent 89, 115

F

Fabricating Equipment 10, 110
Fabrics 20
Fans & Blowers 6, 9, 14, 25, 46, 76, 82, 88, 92, 104
Fastening Devices 1, 2, 3, 5, 12, 16, 17, 18, 20, 21, 24, 30, 33, 41, 43, 48, 51, 52, 58, 59, 65, 66, 68, 70, 74, 76, 77, 79, 81, 89, 91, 94, 110, 112
Faucet Repairs 28
Faucets 47
Feeders 64, 92, 100, 105
Feeders, Motorized Hopper 53, 91
Fiber Products 82
Files 64
Filtering Equipment .. 5, 9, 22, 26, 28, 48, 55, 59, 73, 93, 103, 114
Finishes 27, 94, 109, 115
Finishing Equipment 14, 15, 19, 38, 66, 86, 102, 106
Finishing Equipment, Blast .. 10
Fire Extinguishing Equipment 79, 95
Flexible Shaft Equipment 28
Floor Machines .. 10, 41, 84, 88, 120
Flooring Materials 7, 27, 29, 84, 93, 103, 107, 109, 117, 120
Forgings 37
Forming Machines, Roll 64
Framing 67
Furnaces, Industrial .. 68, 69, 116
Fuses 71

G

Gages, Precision 4, 53, 58, 63, 86, 109
Gages, Pressure & Temperature 10, 14
Gearing 46, 69, 110, 115
Generators, Steam .. 18, 51, 73, 114
Glare Preventives 97
Gloves, Industrial 70, 79, 116
Goggles 34, 37, 40, 51, 102
Grating 29, 84, 109
Grinding Equipment 4, 13, 16, 33, 63, 69, 80, 93, 102, 107, 111

H

Hammers & Mallets 64
Hardboard 55
Hardware 27, 44
Heat Exchangers 24, 54, 102
Heat Treating Equipment 56
Heaters, Compound 11
Heaters, Electric 4, 10, 40, 46, 66, 75, 78, 81, 85, 116, 119
Heaters, Electronic & Induction 35, 59
Heaters, Unit 106, 116
Heating Equipment 6
Hoists 9, 14, 15, 27, 37, 39, 50, 56, 62, 73, 78, 92
Holloware, Fiber 118
Honing Equipment 6, 10
Hose & Fittings 14, 15, 23, 24, 25, 28, 45, 79, 80, 82, 84, 96, 104, 107, 108, 114, 117
Humidifiers 68, 94

I

Ice & Snow Melters 3, 107
Incinerators 81
Indicators, Flow 83
Indicators, Pressure & Temperature 38, 42, 98
Inspection Equipment 5, 6, 8, 36, 37, 43, 58, 67, 81, 97, 120
Instruments, Electric 6, 22, 42, 85
Insulation, Electric .. 15, 29, 102
Insulation, Thermal 68, 99

J

Jacks 39, 92
Jigs & Fixtures 76, 112
Joints, Rotating 22, 86, 105

K

Knives & Blades 23, 99

L

Labels & Nameplates 8, 23, 101
Ladders 7, 43, 59
Laminated Materials 12
Lighting Equipment .. 2, 7, 18, 23, 39, 63, 74, 79, 82, 90, 94, 110
Lockers & Shelving 11, 114
Lubricating Equipment & Materials 23, 24, 42, 49, 52, 63, 71, 76, 93, 103

M

Machine Tool Accessories 1, 3, 4, 6, 12, 15, 17, 20, 29, 31, 47, 53, 58, 60, 65, 74, 80, 84, 101, 109, 112
Machine Tools .. 8, 17, 54, 58, 100
Magnetic Equipment .. 7, 56, 60, 61, 64, 99, 116, 120
Marking Equipment 3, 6, 28, 38, 43, 51, 57, 87, 102, 103, 111, 116, 117, 118
Materials Handling Equipment 12, 13, 30, 32, 43, 46, 49, 50, 51, 52, 53, 55, 57, 60, 61, 67, 71, 78, 81, 87, 94, 97, 98, 105, 114, 115, 118
Metals, Embossed & Perforated 43
Meters, Flow 2, 35, 74
Meters, Tong Test 32, 96
Mixing Equipment .. 50, 65, 69, 80
Models 37
Mold Release Agent 111
Motors, Air & Hydraulic 97
Motors, Electric 32, 43, 52, 64, 72, 78, 80, 85, 94, 98, 105

N

Nailing Machines 27, 45
Nozzles, Spray 77, 114

O

Office Equipment 6, 15, 21, 29, 84, 96, 100
Ovens, Industrial 25, 51, 86

P

Packaging Equipment & Materials 9, 36, 37, 59, 67, 84, 97, 101, 105, 109
Packings & Gaskets 61, 111
Paper Products 59
Parts, Precision 46, 115
Photographic Equipment 83, 99
Pipe & Fittings 1, 23, 25, 29, 31, 40, 44, 57, 98, 116
Pipe & Thread Compounds .. 35, 83, 118
Pipe Tools & Machines 17, 33, 48, 52, 53, 73, 92
Plastics 19, 23, 44, 57, 68, 77, 90, 103, 104, 112, 113, 116
Plating Equipment .. 5, 53, 77, 98
Plugs & Caps 37, 97
Power Units, Electric 12
Power Units, Hydraulic 5, 18, 20, 32, 66, 75, 89, 93
Press Brakes 65, 99, 116
Presses 2, 3, 10, 17, 34, 64, 68, 71, 77, 104, 114
Process Equipment 33, 99
Production Facilities 108
Pullers 22, 26, 35, 39
Pumps 13, 18, 22, 41, 44, 47, 48, 52, 55, 58, 65, 66, 69, 72, 77, 79, 89, 100, 108
Pumps, Air & Vacuum 97, 110
Punches 83, 111, 116

R

Racks .. 4, 23, 40, 49, 57, 67, 84, 98
Recorders, Industrial 11, 83, 90, 98, 112, 114
Reels, Cord 80
Reels, Stock 114
Refrigeration Equipment 75
Relays 15, 39, 41, 43, 51, 78, 90, 106
Reproduction Equipment & Materials 21, 59, 113
Reseaters, Valve 62
Resistors 8, 42, 108, 114
Respirators 2, 8, 73
Riveting Equipment 27
Rolls 106
Rubber Products 18, 74, 77, 102, 104, 111, 114
Rubber, Synthetic 29
Rules, Tape 16
Rust Preventives 41

S

Safety Equipment 10, 17, 29, 31, 34, 50, 78, 84, 87, 100, 109
Saw Blades 22, 26, 61
Saws, Metal & Wood 19, 22, 33, 41, 45, 47, 54, 70, 107
Scaffolding 68
Scales 14, 25, 37, 100, 115
Screening Equipment 56
Screwdrivers 6, 112
Seals & Sealants .. 16, 62, 96, 108
Shears 31, 39, 42, 45, 54, 70, 73, 91, 92, 102, 109
Shop Equipment .. 4, 54, 89, 98, 104
Signals 7, 88, 103
Signs 46
Slide Rules 60
Slings & Fittings 74
Slitters & Rewinders 86
Snow Plows 5
Snubbers, Exhaust 51
Soldering Equipment & Materials 26, 83, 95, 115, 120
Solenoids 69, 98
Speed Reducers 10, 28, 46, 57, 76, 89
Spray Equipment 77, 112, 114
Spreaders 72, 90
Springs 38, 41
Sprockets 47
Stampings 56, 76, 112, 115
Stapling Equipment 26, 93
Steel 65, 66, 85, 100, 101
Straighteners 49, 64, 87
Strainers 102
Strapping, Steel 20, 37, 68, 95, 105, 110, 112
Strip, Prefinished Metal 100

T

Tables 3, 14, 81
Tables, Indexing 9, 78
Tachometers 62, 109
Tape, Industrial 20, 92, 93, 107, 113
Tapping Attachments & Equipment 98, 108
Testing Equipment 16, 19, 22, 25, 32, 36, 38, 56, 61, 62, 67, 74, 77, 79, 86, 88, 99, 104, 107, 115
Thermometers 11, 55, 70
Timing Devices 2, 37, 83, 93, 106, 112
Tires, Industrial 31, 33, 109
Tools, Cleaning 11
Tools, Cutting 1, 12, 20, 26, 47, 59, 61, 63, 89, 90, 96, 97, 120
Tools, Hand 6, 10
Tools, Pneumatic 19, 53, 60, 63, 85
Tools, Portable Electric 13, 40, 41, 42, 54, 70, 71, 106, 120
Tools, Powder Actuated .. 1, 24, 25
Transformers 6, 38, 45, 110
Traps, Air & Steam 31, 47
Trucks, Hand 28, 30, 34, 36, 41, 47, 98, 100, 106
Trucks, Industrial Power 12, 42, 54, 93, 96, 106, 110
Tubing & Fittings 24, 25, 55, 58, 85, 102, 107, 115
Turbines, Steam 47

V

Valves 16, 29, 55, 63, 74, 80, 84, 95, 101, 110, 113, 114
Ventilating Equipment 39, 63, 86, 96
Vibration Absorbers 6, 9, 19, 22, 67, 94, 95
Vibrators 42, 81
Vises 17, 83, 84, 109

W

Wardrobe Equipment 41
Washers 56, 76
Washroom Equipment 38, 67, 100, 104
Water Treatment 4, 35, 96
Waterproofing 99
Webbing 12
Welding Equipment .. 15, 32, 44, 50, 59, 67, 73, 75, 78, 88, 100, 102
Wheels, Industrial 40, 95
Winding Equipment .. 100, 104, 117
Wire Cloth & Screen 26, 62, 102, 107
Wire, Electric 73, 112
Wire Rope & Fittings 53, 102
Wire Specialties 55
Wiring Devices .. 9, 11, 24, 47, 53, 56, 63, 72, 73, 88, 101, 111, 116
Woodworking Machines 51
Workbenches & Tops 11, 30, 78
Wrenches 6, 23, 38, 53, 95

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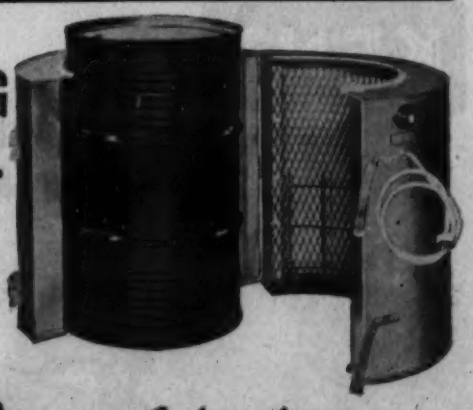

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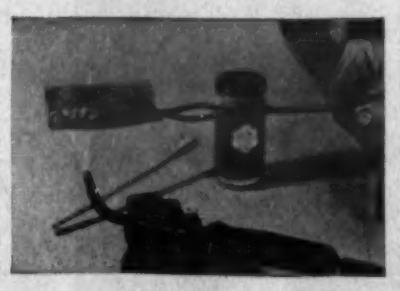

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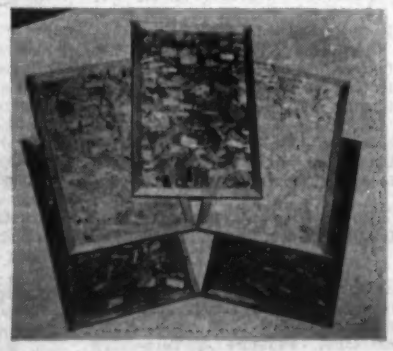
composed of wood fibers and flakes



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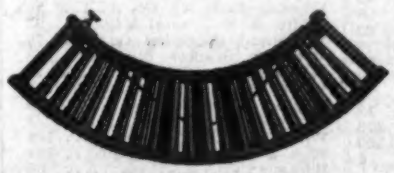

overcomes all past difficulties

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